# The Builder.

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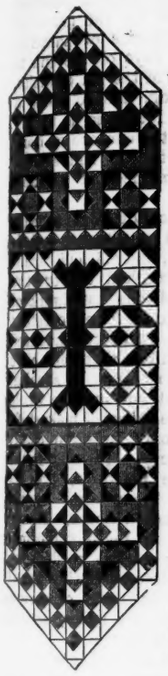

## *Squalor.*

IF it be asked in what single word the evils most hostile to the architect can be summed up, what word can be more appropriate than squalor? Defining a condition in itself detestable, squalor is no less hateful for the unseen evils of which it is the outcome than it is for its own melancholy and depressing aspect. The word denotes absence of beauty, the negation of artistic or industrial effort, neglect both moral and physical, sanitary danger, financial ruin. In this last respect, indeed, as is the case in the vigorous fungoid growths which indicate the decay of the vegetable substances on which they feed, squalor is very costly,—costly to those who suffer from its causes. This cost may indeed, at times, be the source of a large and unhallowed gain to the pockets of the proprietors of squalid abodes. Against this, however, has to be set the far greater loss to the community at large that arises from the maintenance of nurseries of disease. And although we have no right to step in between the owner of the rookery, and what ought to be his conscience, we may be permitted to express strong doubts as to the advantage ultimately gained from money thus earned. Proverbial wisdom, at all events, is in favour of such a doubt.

It is not out of our province to endeavour to trace the chief causes of a squalid appearance in houses; since it is from a full knowledge of evil that we may best learn how to avoid it. Squalor, then, is the outward expression of hopeless and unrelieved poverty. But it is not needful for the poor man's house to be squalid. On the contrary, with industry and care, and the bright service of a healthy wife, the tiniest cottage may at times be an abode in which the most dainty could pass a short time with pleasure. On the other hand, many houses become squalid without the excuse, miserable as it is, of abject poverty. Thus, while we may fairly rank poverty as a main cause of squalor, this must be understood of unresisted poverty. It is in fact, rather neglect, than absolute absence of money, which is the chief cause. Cleaning is neglected; and whatever be the building, and however it be finished and furnished, in which constant cleaning is omitted, dust accumulates, unexplained stains make their appearance; and a progress, more or less rapid as the case may be, sets up towards decay and dilapidation.

In this downward progress no element, in our climate, is more powerful a cause of mischief than damp. Damp weeps in grievous stains from the walls. Damp rots the floors and the carpets, swells the windows till they refuse to open or close, disarranges the fitting of the doors, causes the wall-papers to rise up in flabby blisters, and blends the whole complexion of the house, within and without, into a sort of grimy unity of discomfort and beggary.

This action of damp may be traced to several causes. Very frequently the builder so commences his work that he may be thought to make a special provision for ensuring the constant presence of damp. On an impervious soil he will sink a hole for the foundations, which will be freely exposed to catch any rain or surface water, but which is entirely unprovided with a drain. Thus he ensures the advantage of keeping the footings and lower courses of the walls standing in a sort of bath or well, and the upper walls, in consequence, are never thoroughly dry. Or, in a pervious soil, he boldly excavates for the basement floor, the walls of which he makes to serve at the same time as retaining walls for the outer sandy earth. The drip of the roof, the escape of the rainwater pipes, and very often a dripping tap just outside the house, keep the jacket of pervious soil immediately without the basement wall perpetually supplied with water; and thus the lower part of the house is as thoroughly damp as if it were built in a hole in the clay.

Again, neglect of the roof is a very constant cause of damp. Our roofing, as a rule, is probably in a more primitive condition than any part of our building. And if we use the word "primitive," it must rather imply retrogression than stagnation. As far as our experience goes, it is seldom that roofs are now made which in any way approach the excellence of those leaden roofs with which we have made acquaintance on many a lofty minster, abbey, or cathedral tower. No doubt a lead roof is a very costly one. But cost was a less primary consideration with the builders of our old church-building times than is now the case. It may also be questioned whether, in the case of roofing, first cost be not least cost. An example which at the moment recurs to memory is that of the roof of the tower of Tewkesbury Abbey. The large square tower has a partly flat, partly slightly inclined roof, surrounded with a parapet, and covered with lead. To the protection thus accorded, no doubt, the preservation of this portion of the edifice is in great measure to be attributed. It would be difficult to substitute any other covering on a part of a building where snow accumulates, and water drifts, that would so thoroughly keep dry, not only what is under the roof, but also the walls which support it.

If we compare the water-tight and durable protection of the ancient leaden roofing to the shelter given by either tiles or slate, we shall see at once how much of the absolute weather-proof efficiency of the building is sacrificed to effect a money saving, which, of course, is a very considerable item. Neither tiles nor slates are laid so as to be absolutely water-tight. They lap over each other, so that in no part of the roof there is, or ought to be, less than two thicknesses of slate, or an unbroken thickness of tile. And so long as rain falls vertically, or nearly so, it will run from edge to surface of tile after tile, or slate after slate, and make its way to the gutter without entering the roof. But the case is altered if we have anything of such weather as is frequent in more southern latitudes. If a swirling wind accompany a heavy rainfall, it will often carry a stream of water *up* over a portion of a roof. Neither tiles nor slates are then water-tight. Against any such action of the elements the protection which those materials afford is most inefficient. If a strong upward draught from the gutter or eaves be kept up for some time steadily, the downpour of water into the house may be a considerable proportion of that which falls over the portion of its roof so exposed.

It is well known to builders, especially in the case of churches, that snow at times makes its way upwards, by the aid of drifting wind, into tiled roofs. Experience points out the advantage, in order to avoid this cause of damp, of laying roof tiles in hay. The plan, however useful for this purpose, is hardly one that can be considered to denote a very advanced condition of the art of roof-building.

These dangers beset tiled or slated roofs of ordinary design and fair execution. But there is another source of mischief which affects these roofs. There is a danger usually arising from scamping; that is to say, from neglect. But sometimes it arises from ignorance, and sometimes, unless a certain class of men are very much calumniated, from design,—the design to provide work, or as it is called, to make a job. Thus, if any repair is required in a roof, and the workmen who go to investigate or to mend the damage are allowed to walk over the roof, unprotected by planks or ladders, the chances are in favour of their making two leaks while they stop one. The mere weight of the man, if allowed to come directly on a tile or slate, will very likely crack it. That the upper and the under layer should thus be pierced by the same crack is perhaps rather probable than otherwise. Again, a nail or peg left out, not to say a pick of a slater's hammer, is quite enough to establish at least a source of damp in a rafter or a principal, and thus to lead to the sagging of the roof, the admission of more wet, and to the general increase of damp and advance of decay.

Stucco, plaster, and rough cast are highly favourable to the retention of damp, and to the progress of decay. Sometimes these materials are so absorbent as to subject the house which they adorn to a sort of permanent hydropathic treatment. Or, again, they may admit of a gentle percolation of water between the wall and its slovenly jacket, which has the same effect. The use of bricks made of certain clays,—among which the gault has an evil prominence,—is also conducive to damp. If the

tourist will note those parts of England where it is common to give to the houses a vertical facing of tiles, he will see the indication of the use of pervious bricks. The tile, being so much thinner, is vitrified to some extent in the kiln, and thus does not present an absorbent surface. The tile facing thus keeps the brickwork dry,—except in the case of wet drifting before the wind.

The only place in which we remember, at the moment, that a sort of artificial squalor is habitually produced in new building, is the bright little city of Turin. It must be remembered that in condemning the external use of stucco, and plaster of all kinds, we speak of them as they ordinarily exist in England. In Italy the face is altogether different. Good Scagliola, in Italy, is at times almost indistinguishable from marble, for the pilasters and internal adornments of a church. Again, fresco painting, which is almost an unattainable art in England, is habitually to be found in houses even of very modest proportions in Italy. We are inclined to attribute the great difference between the work of the plasterer in England and in Italy, not so much to the superiority of the Italian limes as to the method adopted by the Italian architects for their treatment, which is diametrically opposite to that familiar to ourselves. With us it is usually considered important to use lime as freshly slaked as possible for mortar. In the specifications prepared by Mr. Brunel, to which the utmost care was given, and as to which every new discovery made by experience was carefully made to apply, the provisions were very strict as to the use of lime actually hot from the process of slaking. The Italian builder, on the contrary, commences his work by digging a pit, in which the lime is thrown and covered with water perhaps two years before it is used. We may have mentioned this before. It is a matter of very great interest, to which we are anxious to attract the attention of the architect and of the builder. When we see the condition of the mortar in old Roman work in this country,—we may cite Rochester, St. Alban's, and Guildford, as places where the old Roman work may be found set in a mortar which is as hard as stone,—the question arises, Did not the Italian builders import their national mode of mixing mortar, as well as their national form of brick, into Britain? When we find that, by some means or other, the Roman work is as durable in England as it is in Italy, this question deserves very serious attention.

To return, however, to what we were saying as to Turin. It is the custom in that city to build houses of a certain importance of brick, which is in some way either roughened or plastered over with clay or brick earth, so as to give a good hold for a subsequent coat of cement. We cannot speak with more precision as to the actual process. But we can speak as to the pictorial effect. It is, we believe, intended that this rough surface shall dry for some six months before the cement is applied. But it not unfrequently happens that the house, when built, is unsold or unlet, or from some other cause left unplastered. In a very short time it then assumes the appearance of extreme old age; and many important buildings in Turin are, or were some years ago, invested with this squalid halo of a spurious antiquity.

We must not omit to mention the vigorous action of the various species of the organic kingdom in producing squalor. The instincts of dogs are unusually opposed to the durability of iron railings, when they are fixed so near to the ground as to come within the reach of the mischief constantly effected by these animals. It would be a great triumph for the advocates of evolution by natural selection if the obnoxious habits of the canine race could be improved by education. Then those cheerful and active citizens of the world, to whom we would be the last to grudge food or shelter, the sparrows, instead of paying rent for the shelter afforded them by the eaves of the house, become at times very mischievous tenants, by building in a rain-water head, or by bringing sticks, straw, and feathers that choke the down pipes, and cause overflow and permanent damp. But it is the vegetable kingdom which is the chief cause of squalor. Dry rot, we believe, is due to the growth of microscopic fungus. Decay of all kinds is hastened, if not caused, by the activity of the growth of the more obscure acrogenous plants. Walls that are permanently damp become coated with the various species of marchantia,—that green leprosy which is so picturesque in a wood, or on the rocks that overhang a waterfall, but so obnoxious on a garden wall, on the side of a sunken area, or in any way in close vicinity to human abode. The forms of lichens, mosses, and fungi are many; and even epiphytic ferns will sometimes make a lodgment in a gutter or under a tile, and contribute to the dilapidations of a house.

As to ivy, it is a moot point. We do not venture to offer an opinion without great hesitation. There is no doubt that ivy is one of the worst possible neighbours to the garden, owing to the hospitable shelter which it affords to snails, slugs, and insects of all kinds. But we have known many ancient houses so long and so warmly coated with ivy that we feel rather disposed to regard it as a friend than as a foe to the builder. If ivy be banished from the walls of the house, it bids fair to be banished altogether. For on the garden walls either pears, stone-fruit, roses, or wistaria, or some other kind of climbing and flowering plant, will generally be more desirable than ivy, besides the objection as to slugs. And, as to trees, ivy should not be allowed on their trunks to grow by those who prize a well-grown tree. To the fir tribe especially, the clinging embrace of the ivy is always pernicious, and, if left undisturbed, ultimately fatal.

A question has arisen on which it will be well for the architect to hold counsel with the forester. We mean as to the determination of the species of trees which should be planted within a small distance of houses. We are now more particularly referring to towns. There is no doubt that a fine open boulevard, or wide street, in which an avenue of well-grown trees has ample room to flourish between the footpaths and the main road, is one of the greatest ornaments of a city. The urban pictorial effect is admirable. It is hardly necessary to cite the case of Paris, or the still more striking example of Bordeaux. On the other hand, in narrow streets with small houses, the overshadowing growth of quickly-growing trees is a frequent cause of squalor. Such trees as the occidental plane, which is of extraordinarily rapid growth, or indeed, any of the plane or sycamore tribe, shed easily their broad leaves, which are discoloured and patched with black stains long before the leaves of the beech or of the elm betoken the approach of winter, and which fill the areas and passages with a damp unwholesome carpet of decaying vegetable matter. Perhaps the only English leaf, except the spines of the fir tribe, which is perfectly wholesome when fallen, is that of the beech. The beech leaves dry, instead of rotting, and form a good material for stuffing mattresses. But the growth of the beech, which spreads its roots on the surface of the ground, is unsuitable for the vicinity of houses, and the limbs of the tree are said to be brittle, though we should question if they are so brittle as those of the elm, which easily decay during winter. Certainly they are far less brittle than those of the acacia, so frequently planted as an urban tree, in spite of its creeping roots and its habit of throwing up suckers. In the beautiful park of the Marquis of Ailesbury, at Savernake, near Marlborough, are many furlongs of clipped beech hedges, which retain their dry brown leaves until they are displaced by the fresh growth of the following spring.

We are convinced that the subject of town planting is one that demands very serious attention. To stick in a tree, irrespective of the question of how high that tree is to grow, how soon it will attain its height, and how house, or road, or path will be affected by drip in rainy weather, by falling leaves, or by the pushing action of the roots, is indefensible. Here we may take a leaf out of the book of our ancestors. The tree which they were most in the habit of planting in close vicinity to their houses was one in which these defects did not occur. The yew is extremely slow in its growth. It endures clipping enough to keep it in the same shape, and of almost the same size, for centuries. It does not throw down a mass of rotten leaves; but the needles which it sheds are as dry and wholesome as the leaves of the beech. It affords a most hospitable shelter for birds. The yew was encouraged in England, as is well known, as the best material for the ancient weapon of the country. Now that the bow is no longer used for purposes of defence, the funereal associations connected with the tree, from the fact that it was so constantly planted in churchyards, have led us to neglect, or dislike, its presence. But we must plead for the yew as a tree suitable for garden shelter and for urban cultivation,—a tree which is not likely to be a cause of squalor. Next to the yew, when juniper, cedar, or tamarisk are not to be obtained, we call attention to the May, or white thorn, as a tree that attains only a dwarf stature in extreme old age, as well as affording the most lovely flowers and most fragrant breath in spring.

This question of urban planting is, indeed, closely connected with that of exposure of the walls of a dwelling-house to sun and air. It is highly important to health that this necessity should be kept in view by the builder; and the squalor which arises from its neglect constitutes a mute appeal on the part of the abode for better treatment. Sunken areas, narrow alleys, walls shadowing walls,—all those contrivances to which the builder is so apt to resort when ground becomes of great value, tend to squalor. They encourage damp, they harbour parasitic growth, they form seed-beds for the germs of fever, as well as for the species of parasitic vegetation. To allow the rays of the sun to strike, so far as the latitude of the place admits, on every wall of a dwelling, and to allow a full sweep of wind to eddy round, so as to dry the walls in the absence of the sun, are sanitary requisites of the first importance. And squalor is an indication of the neglect of sanitary requisites.

It is hardly necessary to add that a main cause of squalor, as well as of ultimate cost, is the neglect of prompt, real, and efficient repair. We have spoken of the cracked tile or the pierced slate; but over all the handiwork of the builder is it necessary to exercise a constant vigilance, which repays its own cost a hundred fold. Broken windows stuffed with rags have been of old times the very type of squalor. Damp is let in, light is kept out, and the whole household is educated in the school of makeshift. Sixpennyworth of paint may preserve costly timbers from damp and decay. The glazier, the painter, the plumber, the plasterer, are too often looked upon as so many ogres by the tenant of an old or a neglected house. Nevertheless, to avoid calling in these tradesmen when the exercise of their craft is needed, is a miserable economy. It is like hesitating to call in a medical man on the first threat of serious disease; or burning a lawyer's letter, instead of taking advice as to its menace.

It must, we think, be admitted that whatever conflict may arise, as we have lately seen that at times it does, between the claims of art, of economy, and of health, no such discord can exist with regard to the prevention of squalor. That evil is alike obnoxious from each point of view. Nor is the moral effect to be forgotten. It is by no means sure that this is not the most serious of all. Whether we regard the helpless indolence that makes no effort to prevent the home from becoming squalid, or the depressing and degrading effect of squalor on the tastes and habits, the result is equally to be deprecated. If cleanliness be, according to the old proverb, next to godliness, it cannot be denied that squalor is the herald of disease and wears the livery of crime.

## THE ARCHITECTURAL ASSOCIATION.

We are asked to mention, and willingly do so, that owing to the alteration of premises now going on, the session of the Architectural Association will not commence until Friday, the 21st of November, when the president will deliver his address to the members. The *conversazione* will take place on Friday, December 5th. The cards of invitation will be sent out shortly.

The Library will be open as usual on Friday, October 31st. The first meeting of the classes will be held on Friday, November 28th.

**The Town-hall for Limehouse.**—On the 21st inst. the foundation-stone of the Town-hall for Limehouse was laid. The site adjoins the parish church. The frontage of the new town-hall will be about 80 ft., and the building will be Italian in style, faced with white brick and Portland stone dressings. The first floor, which will contain the board-room, will be 70 ft. by 40 ft. The cost of the freehold and leasehold interests in the site for the building amounted to 2,300*l.*, and the contract for the building itself is 10,000*l.* The works have been undertaken by Mr. J. H. Johnson, of Limehouse, the architects being Messrs. A. & C. Harston.

## ABOUT TOWERS.

Milton, when he turns in *L'Allegro* from the joys of the country to those of the town, introduces the latter by the line,—

"Tower'd cities please us then,—"

as if, to his mind, the presence of towers were the leading characteristic of the city; though, perhaps, in reality he was merely looking for the most comprehensive and picturesque epithet which would summon up in one word the picture of a piled-up and crowded city. As usual with him, his epithet exactly produces the effect arrived at, though it is curious to find, in a poet with so little Mediævalism about him as Milton, and so thoroughly belonging to the Renaissance world, an epithet so peculiarly characteristic of a Mediæval city, a character which the succeeding reference to the tournament certainly keeps up. It is, however, evidently the crowded effect of a Mediæval towered city which was in the poet's mind,—a city where the needs of fortification and of compression within a comparatively limited intramural area gave rise to a piling of towers close upon one another, towers of defence and towers of architectural adornment closely crowded together, and producing the effect conveyed in the epithet of the poet. It is only to such a city that his epithet, in all its picturesque force, really applies. London has many towers and spires, but hardly any one would say that the phrase "towered cities" suggested to his mind such a city as London. It is the Mediæval, not the modern city, that is called up before us.

And, in fact, it is not in the most highly civilised and cultured periods that architecture has shown the greatest predilection for shooting up into towers. From the time of the great initial effort at Babel, the tower has been more or less the result of a dissatisfaction with the existing state of things,—a desire to escape; a feeling either that this earth was very insecure and subject to violence, and that a refuge was desirable; or a feeling that earth was beneath our care,—a thing to be spurned and despised, and consequently architecture took the upspringing form which pointed to something higher. The first of these influences was of a practical nature, and showed itself in towers of defence and offence such as those of the Mediæval families of North Italy; the second was a matter of expression only, and showed itself in the towers and spires of Gothic ecclesiastical architecture. There is another influence under which towers have become fashionable in modern times, which we may leave for the moment.

With the tower for purposes of defence, including those of outlook, we have little to do in modern times. Cannon-shot would make short work of them in the first capacity, and heliograph signals and balloons have superseded them in the second capacity. But the tower, as a means of architectural effect and expression, will always remain an important element in architecture. It is the great agent for giving importance to buildings otherwise insignificant in appearance, for producing variation of skyline, for giving effect to a building when seen from a distance, and even for enabling it to be seen from a distance at all. And this is instinctively so much felt that modern architects and their clients are constantly seeking excuses for introducing a tower even when the practical exigencies of the building would hardly have seemed to afford the least hint for such an addition.

There must have been a radically different feeling on this point in the days when what we now call Classic architecture grew into being. Even the Egyptian pylons and pyramids can hardly be called towers in an architectural sense; and when columnar architecture was perfected in Greece, these features had no further life, and no representation in the features of Grecian architecture. It was in accordance with the Greek character, which was so eminently logical, analytical, marked by common-sense and keen æsthetic perception, but with little or nothing of aspiration, that in their architecture the idea of upspringing and rising above the practical level of building should be entirely wanting. So completely is this the case, that their architecture seems even to refuse to ally itself with any such vertical or upspringing feature, and the few efforts that have been made, as in some modern classical churches, to associate tower or spire with columnar architecture have generally proved failures, sometimes one may say even absurdities. This is not merely the effect of association, which has never accustomed the eye to such a combination. It is the result of the completely finite and self-contained character of Greek columnar architecture, which, when completed with its horizontal entablature members, is so entirely without any suggestion for further development upward that nothing can be done with it in this way except by either placing one design upon another in an unconnected and arbitrary manner, or by designing a tower building which might stand beside the columnar building and harmonise with it in style, but which could hardly have any architectural connexion with it.

The former is the manner in which the attempt has chiefly been made, of which St. Pancras tower (the church, of course, not the station) is the most typically absurd example. The latter attempt has seldom been deliberately made, and perhaps never with entire success; Wren, of course, came nearest to it, and some of his steeples are real architectural inventions in this way, of great beauty and picturesqueness, though even in these it may be questioned whether the problem of making a tower, derived from essentially horizontal architecture, appear quite natural or inevitable, has been solved; there is even about these graceful compositions too much the appearance of composition, of forcibly compelling the details of the style into a form to which they do not naturally lead.

The architectural tower of Mediæval architecture (as distinguished from the military tower), probably arose in the first instance from practical conditions. It was the bell tower of the early basilican churches, and in this capacity had generally no architectural combination with the church, but merely stood beside it. And in Italy, a country in which architectural design and construction were never grasped as a whole, as in France, Germany, and England they were, this tradition of the separate tower was for the most part retained, and the tower and church never grew into real architectural unity. This was partly owing to the general retention in Italy of forms arising out of Classic architecture, and the marked return to such forms at the Renaissance. In an architecture where so much of the spirit of horizontality was always maintained, it was very difficult to incorporate the tower with the rest of the design; it must inevitably appear rather as an accompaniment than an integral part of the building.

It is, however, when the tower combines with the building that its real value as a source of architectural expression is obtained. And as far as external effect is concerned, the Mediæval architects reached the highest and most effective use of the tower when they placed it as the central object at the crossing of their great churches. In such a position the tower seems the appropriate culmination of the whole; the opposing masses of building on its four sides give it ample apparent abutment to the eye, the sloping lines of the roofs lead up to it, and it forms the centre and crown of a pyramidal composition. This entirely satisfactory artistic effect is, however, unfortunately confined to the exterior. When we look at the interior, and see the slight mass of the arcades which have to receive the distributed thrust of the tower; the manner in which it is seated, so to speak, on four posts at its four angles, the narrow central area which it allows, and the narrow funnel-like opening which it shows above the crossing if any considerable part of its height is left open to view from within, we feel that the centre tower is a mistake for internal effect, and that we either lose the impression of its height within the building, or, if we retain that, we are equally impressed with its narrowness. The true form for covering the crossing of a church is the dome or lantern, since then we get nearly equal value internally and externally, and gain an extension or widening of the floor-area at the central point of the plan, just where it is wanted for effect as well as for convenience. If we must have a tower at the centre, then it is best to treat it in spire-form, the spire rising the moment the tower is clear of the roofs. In this way a greater appearance of lightness at least is produced, more suitable for a feature which is standing upon arches; and moreover as the spire is admittedly a form for external effect only, there is the less feeling of loss of space and of effect than in the case of a large tower which encloses much space within its walls, and yet does so in a way that is by no means available for internal effect. The method of crowning the central feature in the Houses of Parliament may be cited as an excellent example of consideration for internal and external effect at the same time in such a feature; the light spire-like treatment of the exterior being sufficient to give it architectural prominence externally without hanging any undue weight over the central area. This feature, it is true, scarcely comes under the head of towers; we refer to it as an instance of a treatment more suitable to all the conditions of a centre crossing than planting a tower upon it, though perhaps nothing can equal the effect of the tower in such a position as an external object, if we dismiss from our consideration the interior architecture.

As a general rule, it may be said that the central position of a tower either in a façade or over a crossing produces the more grandiose effect, and the side or angle position the most picturesque effect. As a rule, however, nearly all the practical conditions are adverse to the central position in either case. When planted on a crossing, the necessity of free space and passage under the tower almost inevitably results in its having a very inadequate substructure; and though the Norman builders endeavoured to escape this practical drawback by their grand and solid pier walls (rather than piers) for carrying the tower, as at Tewkesbury and elsewhere, even this amount of substructure was not secured without encumbering the interior space considerably. And when a tower is planted in the centre of a façade, as is now a favourite plan in town-hall designs, it is rarely that this is achieved without interfering with the plan of the front portion of the building more or less. The consciousness of this difficulty produces amusing results in competition drawings for town-halls, where competitors are so often desirous of placing an effective tower in the centre of their front, and at the same time carefully avoid showing on the plan any piers which would materially interfere with the rooms; and so when the plan comes to be examined by an "expert," it is found that these large and striking towers have next to nothing to stand upon.

From these practical considerations it becomes pretty evident that in most cases, however we may admire the tower as a central object and climax of the composition, such a position is seldom the best for the building practically, and that the best result in regard to the sum total is gained rather by an angle position. And there are certain architectural advantages even in such a position, the most important of which is this, that when at an angle of the building the tower can much better be brought up straight from the ground as a complete feature. A centre tower cannot be so treated without producing a central projection which interferes with the apparent length of the façade; it cannot of course be set back from the front, which would have a very bad effect, and it can hardly be marked in a powerful manner except by considerable projection beyond the line of the building. This is no drawback at the angle, but it is so in the centre. There is the option of treating the tower flush with the main line of building, and not disengaging it till it clears the roof; but this is only making what may be called half a tower. The tower should connect itself, of course, with the horizontal stages of the main building, more or less, or it will appear too isolated; but it should stand out as a separate feature with its own base, otherwise it becomes only an addition of a semi-domestic type; picturesque, but wanting in grandeur and dignity.

Endless, almost, are the forms and character of treatment which have been given to towers in different styles of building, and which it would be quite impossible to characterise in an article. There may, however, be distinguished two main principles of treatment, under one or other of which most towers will be found to come. There is that in which the whole of the tower is treated as a surface for decorative expression, and that in which the main portion consists of a stalk carrying a more or less architecturally treated upper stage. The first is represented by such a tower as that over the crossing at Lincoln, and is, in fact, the form usually found in our Mediæval church towers; the latter is represented by some of the semi-Gothic Italian towers, those at Verona and the well-known one at Venice: and the two classes of tower are found nearly side by side in the Houses of Parliament. The method in which they are contrasted in that admirably-designed building

gives the true cue to the meaning of these two classes of treatment. The first is the ornamental or expressional tower, the latter the practical one. Whenever a tower is built for the purpose of carrying up into the air an upper story intended for some special practical purpose, whether for outlook, for a clock, for bells, or for a head of water, then the true architectural expression of such a tower is that furnished by the North Italian type: a massive comparatively unadorned shaft, the object of which is simply to carry up to the required height the working stage of the tower, as we may call it. Such a tower need not necessarily be regarded as in any way inferior in architectural effect to the other type of tower; on the contrary, it is often admirable in its effect and expression, but it is nevertheless essentially a utilitarian tower. A tower designed for this kind of object, besides being kept decidedly plain for the greater part of its height, usually leads naturally to a treatment involving vertical lines and a spreading or overhanging upper stage. The tower built purely for pomp and expression, on the contrary, almost invariably and inevitably takes the form of a structure more or less diminishing or falling in as it rises. The extent to which this reduction in width should be carried depends a great deal upon the nature of the design and detail of the tower; but in general it may be said that it is much better to err in deficiency than in excess in this particular.

We alluded above to a special cause which has operated to bring towers into fashion again in the architecture of the present day in this country. What we were thinking of was the great prevalence of architectural competitions for almost every important work. The aim of every competitor, as a rule, is to cut out the others by producing something more striking than the rest, and the great means of achieving this is by the introduction of big towers. The consequence is that when we go to see a set of competition drawings for almost any description of important building, our first impression is that which is said to have been expressed by an eminent judge on going to look at the Law Courts competition designs,—"I see a great many fine towers, but where are the courts?" In this way towers are forced into buildings where they are not required, and which sometimes would even look better without them. The usual excuse is a clock, which in such a building as a Town-hall is a valid excuse; besides which, so important a building as a Town-hall in a large city may even have its claim to a tower marking the main entrance, as a mere matter of architectural dignity, even without the practical excuse of the clock. But in many smaller buildings of that class, or of other classes, there is a determination now to have towers without sufficient reference to reason and morality. The ingenuity of the architect is best shown when, wishing to add to his building the unquestionably fine effect of a great tower, he can so manipulate his plan and arrangement as not only to turn his tower to really practical purpose, but to make it appear as if this purpose were really best served by a tower, and that the feature arose naturally out of the requirements of the building. For example, if we remember right, one or two of the competitors in that same Law Courts competition made a record or muniment tower a feature in their design; and this was a very fine and suitable use for a tower, providing nearly unlimited room for the purpose without crowding up the ground, and in a very æsthetically effective manner, as showing from a distance the abode of the historic records of the country,—an object of so much natural interest to its inhabitants. This may suggest some consideration as to what are the conditions under which towers may be introduced in our modern cities without violation of suitability or of true architectural economy. It may be admitted that a building of the largest class and of the highest public importance has a right to a grand tower (if that be the feeling of the architect) at its principal point, merely as a source of pompous effect, just as we have robes at a royal procession or reception for effect alone, and which no one would think of choosing for his wearing as mere matter of convenience or usefulness. Other buildings of semi-public or official character are at present often given a tower, or something approaching to it, with little or no pretence of reason, more especially in the case of buildings, the objects of which are purely business-like and prosaic. Churches may be supposed to have a traditional right to towers, though in the case of ordinary-sized churches where the building fund is limited, it seems to us that far too large a proportion of money is frequently spent on a tower, which might have been much more sensibly employed in adding to the comfort of the congregation in a practical manner, by more comfortable fittings, and better warming and ventilation. *Apropos* of this, we heard one day of a blunt criticism on this subject on the part of a wealthy inhabitant of a district who was applied to by the clergyman of the neighbouring church for assistance towards completing the tower, and was told in reply that any funds that could be raised would be better expended in paying off the debt on the building "than in adding a still uglier tower to an already ugly church." There are, perhaps, not a few instances in which such a criticism might apply both on economic and æsthetic grounds. To return, however, to the subject; towers to dwelling-houses are generally regarded by the occupants of the houses as a great addition to their dignity, and in the case of a large mansion a tower is a great advantage architecturally as a means of diversifying the outline, but there should be some obvious reason for its introduction in the arrangements of the house, either as a smoking-room, a prospect tower, or an access to part of the roof. This it is not difficult to give in a house of large dimensions, not easy in a smaller house; and the so-called towers often added to the design of what are in fact mere boxes, by means of a purposeless carrying up of the wall and the superposition of a mansarde roof, are really vulgarities of domestic architecture which should be avoided if there is good taste on the part of either architect or client. There is, however, one possible way in which domestic architecture in towns might furnish the most natural suggestion for towers carried out on a perfectly practical basis; that is, in the event of houses in flats assuming any important place in the scheme of our domestic town architecture. With the modern improvements in lifts as means of vertical progression, it might be perfectly practicable and practical to erect something like towers of Pisa (not leaning) as successive stages of dwellings, affording scope for really beautiful architectural effect of the most ornate description, and in a manner directly arising out of the practical conditions of the building, so that we might thus be pleased by "towered cities" of a different type from those indicated in Milton's verse, not less picturesque and interesting, and suggesting more civilised associations, the towered architecture of modern culture and social economy in place of that of Mediæval rapine.

## OBITUARY.

The Warden of Sackville College, East Grinstead, Dr. Henry Rogers, was found dead in his bed on Saturday last, the 18th inst., and inquiries have shown that he died by his own hand, a bottle which had contained prussic acid being found by his side, a sad ending to a somewhat singular life. Dr. Rogers had travelled much and was a man of considerable acquirements, reading with ease in Latin, German, French, Spanish, and Italian. He founded a cottage hospital close to his then residence in the early days of that movement, and assisted Mr. Chas. Hill, F.S.A., and some other gentlemen of the neighbourhood, in establishing the East Grinstead Dispensary. At Sackville College, where he effected many improvements, he had made an interesting collection of books, prints, and relics connected with its history. It is to be hoped his successor may have taste and judgment to preserve the collection. What led to the fatal act on the part of Dr. Rogers is not known to us. He had recently lost much of both eyesight and hearing, and was possessed by a melancholy idea that he should die in poverty; the depression may have become too great to be borne. He was a lineal descendant, we may add, of Theodore, "the unfortunate King of Corsica."

**City and Guilds Institute.**—The City and Guilds of London Institute for the Advancement of Technical Education announce the opening of their technical classes at Cowper-street School, Finsbury. An inaugural lecture, free, will be delivered by Mr. Ayrton, on Saturday, November 1, at eight p.m., on "The Improvement Science can effect in our Trades, and in the Condition of our Workmen."

## THE KITCHEN AND THE PARIS EXHIBITION OF 1879.

Far more than is generally admitted, the feeling of hesitation to which that most eminent of writers on the science of the kitchen, Brillat-Savarin, confessed, in laying before the world his studies on a subject he considered they might treat as trivial, a feeling which doubtless only too successfully prevented Johnson from publishing that promised cookery-book which we have been assured he believed himself so qualified to write, far more than is generally admitted, such sentiments interfere with the due consideration of a subject as important as the management of the kitchen, on the manipulation of which depends so largely the happiness of our existence. It is too often the custom in our country to treat the subject as one specially suited for the display of wit, of anecdote, and that very questionable but much respected knowledge of certain choice dishes, the properly pronounced nomenclature of which pre-supposes an acquaintance with the French language and the French capital. Such, at least, may be said of the last generation; the rising generation in its indifference has fallen, perhaps, somewhat into the opposite extreme, and between these two points the question is left to the discussion of the ladies. Not but what the columns of our papers are constantly occupied by lengthy disquisitions on the value and necessity of intelligence in the kitchen, suggested perhaps by the opening of some branch of the School of Cookery, or by the publication of some one of the numerous housekeepers' manuals which now often appear in the most serious publishers' lists.

While we in England are showing an evident desire that our kitchen economy and our knowledge of the art of cookery may be improved, our neighbours the French, it is impossible to deny, cannot be said to hold the same position that they did a generation ago. Even they themselves complain of this decadence, and hail,—Oh, shades of Carême and Company!—the formation of a school of cookery in Paris; and yet never has intelligence been more brought to bear upon the various necessaries and utensils in use in the kitchen.

Far greater importance and consideration may yet be given to the question of its management than has heretofore been accorded to the question, and among the many errors which afflict human society, to the injury of the family, few may be mentioned as more fatal than the habitual custom of classing the operations of the kitchen among the purely material cares of the household, and hence abandoning them entirely to mercenary hands. It is not our intention to open a discussion between the materialists and the spiritualists in the matter of pots and pans; but it is a truism, and therefore requires no demonstration, that we can alone live by eating, and without life neither sensation nor thought can exist. We must, therefore, eat to feel, to think, and to work. Now, it is evident that the good and bad quality of the food, possessing a direct influence on the system, the brain, and the heart, act also on our sentiments, our ideas, and our actions, as a fertile or poor soil influences the growth of the plant. Cultivation has changed the simple into a double flower; its different mode of feeding has changed the wild cat into the domestic cat.

As each family, therefore, esteems it a matter of interest to preserve in good health all its members, it becomes an absolute necessity to seriously consider the management of the kitchen by aiding in every possible manner all the material and moral advantages which result from personal supervision; and once let it be understood that extravagance profits no one, and a first and important step will have been made.

It may be easily imagined that no industrial exhibition could open in Paris without a large share of its space being devoted to the kitchen. The Great Exhibition of last year afforded visitors the opportunity of judging the kitchen appliances of most of the countries of the world; but in the midst of the thousand other attractive novelties, it can be easily understood how so apparently familiar a feature received but a scanty share of its due attention. In this year's Exhibition at the Palace de l'Industrie, though we are, unfortunately, unable to compare the exhibits of several foreign countries, it is an easier task to take into consideration the different culinary appliances which, only within the last few years, have been brought before the public; and such a study is not alone

interesting to the housekeeper, but merits the attention of the practical man and the architect, who, in the present day, it may be observed, sometimes seems scarcely disposed to sufficiently consider, in the interest of his clients, this important feature of the household, in which too often traditionary and very questionable customs are continued.

Apart from its recognised importance, the kitchen has, with some, and very properly, a fascination entirely separate from its usual interest. We know of more than one great house in England where the kitchen is daily visited, not alone by the mistress, but by the master, who inspects there the *menu* of the day, and who gathers from the head-cook the bones for his favourite dogs after their long walk. We all remember in our youth the attractiveness of the lower regions, and the brightness and order of the dresser and the mantel-shelf when work was over; and when we read of those kitchens of the old abbeys through which a river would be diverted, bringing with its stream the fish for the abbot's table, and look back in our museums at the magnificent utensils used in those early days; when we reflect how much interest we all take in the results of the kitchen manipulations, we are inclined to think that we do not pay anything like sufficient attention to the susceptibility of the kitchen to architectural consideration.

A problem which, before considering the supply of the absolute necessities of good ventilation and ample light, so essential to the gastronomic manipulation, presents itself to the thoughtful architect, is the position of the kitchen; separated, and at the same time connected, with the rest of the house to render both the service and the personal supervision easy, and yet prevent the possibility of any kitchen odours reaching the dwelling-rooms. We in England almost invariably place our kitchens in the lower parts of the house,—a system which also prevails, wherever practicable, in France, and in Italy and America,—with what consequence often to the nerves of sensitive people, and always to the comfort and health of our servants, is only too well known. In some rare cases the kitchen may be found at the top of the house, by which means no odours can enter the dwelling-rooms, but the difficulties of service are by this means increased. It may, however, be said in favour of this little-tried system that the modern use of the lift has greatly facilitated this position of the kitchen.

In French houses, where the "flat system" is so universally adopted, kitchen and dwelling-rooms are all on the same floor, and, let it be said to the credit of the French architects, the kitchen, when well kept, is not the least attractive of the features of the Parisian *appartement*. Where such a plan is feasible, and with due care taken to prevent the entrance into the house of bad smells, the kitchen on the same floor as the dining-room offers many advantages, both for the ease of the service, the greater certainty of personal supervision, and the perfection of the condition in which the food is placed on the table.

And now, after thus only too hastily touching on this important question of the position of the kitchen, let us pass in review some of the various systems and culinary appliances exhibited in the Palais de l'Industrie. Within a few years the very general use of gas has surprisingly simplified the management of the kitchen, but now the aid of steam has come to further assist the housekeeper, though, let it be said, more in the preparation of food for large establishments than for the small family circle. With the use of steam there is no longer any need for the range, fireplace, calorifer, or stove; all that is visible is a line of pots of various sizes suspended to a number of slender columns. In the adjacent room is placed the steam generator, put into communication with the pots by means of two pipes which pass under the floor. One of these pipes receives the steam, the other takes it back, and thus the temperature round the cauldron is constantly maintained, and each moment increased in this circular movement of the heated steam; the mechanism, in fact, greatly resembles the human system, the machine not unfittingly representing the heart, and the pipes the arteries and veins leading the blood to and bringing it away from the lungs. In such a kitchen may be seen boiling gently huge cauldrons containing many gallons of liquid, without any fire being visible. The large pot-lid opens and shuts, and remains at any desired angle without any difficulty by means of a counterpoise to which it is attached, while the whole cauldron can be turned down on its pivots, to be inspected or emptied, by a child, so easy is its action. Steam cookery becomes especially advantageous when more than 200 or 300 persons have to be fed, and this advantage naturally increases in proportion to the amount of food supplied. Nothing shows more the utility of this system of cooking by steam than the ease with which a dinner for 3,000 persons can be prepared, with an immense saving of combustible and service, only a few hands being necessary to manage the pots. In some of the many religious establishments abroad, the Sisters of Charity are able themselves to cook for their convent and for a large number of pensioners; while in more than one penitentiary the children do their own cooking by the aid of steam. It would seem, in fact, that the invention (for such it fairly may be called) came from the convent, and, being used throughout the many religious communities of France, was eventually adopted in the barracks for the cookery of the army; and at the present moment the perfected system which the engineer, Egrot, exhibited last year, and now exhibits at the Palais de l'Industrie, is in use in numerous commercial and private establishments, manufactories, hotels, and restaurants.

After steam comes undoubtedly gas, the use of which is now being rapidly adopted, thanks to the many ingenious and far from costly stoves which the various rival inventors have placed before the public, and advertisements of which our own columns contain. The cleanliness and handiness, the ease of its management, have long recommended gas, and the old objection which existed during its first application, of imparting a flavour to the food cooked by it, has now been completely obviated. A kitchen gas-stove is now placed within the power of the most modest purse, and certainly its advantage, whether for boiling, roasting, grilling, or what not, cannot be too highly spoken of.

With the use of gas, to mention its various applications to the manipulations of the kitchen, in the ingenious automatic roasting-jacks, and other inventions here exhibited, would require more space than lies at our disposal. In the midst of such general spread of the use of gas, the epicures of the past may pull wry faces, and sigh for the blazing wood-fire of their youth, but the practical age has discovered that time is indeed money, and economy is gain. The days are gone by when the exquisite taste of the gastronome could detect in the venison the improper flavour of the *floated* wood before which the tempting haunch has been roasted.

But in this matter of economy, the poor have it but rarely in their power to use gas, while among the rich there still continue to exist many fervent adherents to the old faith, and who refuse to patronise gas as a cooking agent. For both of these may be recommended the interminable list of cast-iron kitchen-ranges,—probably so called from their extraordinary property of "ranging" from the lowest and most accessible of prices to the apparently most exorbitant, but whose appliances are certainly fascinating. When the range which is so commonly used in England and America is carefully kept at a moderate heat, it forms as admirable a cooking-appliance as can be imagined, but the ease with which it lends itself in unintelligent and careless hands to the most reckless extravagance in fuel forms one of its chief demerits. And here a word may not not be out of place on this important question of economy of fuel, the disregard of which forms so marked a contrast between the English and American, and the French or Italian household.

The coal-bill of the English family is always a formidable item, and the replenishing of the too-often ill-constructed and unhealthily situated coal-cellar, is a matter of apparently constant recurrence. At all hours of the day, in summer as in winter, in our moderate-sized middle-class houses, it is by no means unusual to hear the sturdily-wielded kitchen-poker violently raking out the range or stove, preparatory to the piling on of fresh combustible; this noisy process, it is stated, being necessary for the making up of a bright red fire for meal-time. Volumes of ill-consumed smoke naturally accompany this process, charging the atmosphere with its unburnt and hence wasted carbon, and requiring the periodical visit of the sweep, while, from the difficulty of its being lighted, the fire is sedulously kept up all day, whether wanted or not. Such is the habitual procedure in the English kitchen.

Abroad, such a system would ill agree with the thrifty habits of the natives. There, the use of charcoal is almost universal, and attended with the most satisfactory results. Putting Italy aside, and the country villages of France and Belgium, in all of which still reign the archaic hearth and its lavish expenditure of picturesque and imperfect logs, we speak of the ordinary Parisian kitchen,—such a kitchen as is to be found in every *appartement*, from the smallest rented to the highest. There the stove, placed in a room the size of which naturally depends on the capabilities of the house or rather flat, is a simple tile-stove, furnished with a certain number of holes, each of which has its grating and its ash-box, two or three holes for the ordinary pots, one large hole for the national *pot-au-feu*, a long oblong hole for the fish-pot, or the iron or what not. Underneath the stove, or wherever convenience suggests, is placed the box or other appliance to contain the charcoal, than which, dirty as it is in appearance, nothing is hygienically cleaner; the lighting of the fire is the simplest possible process, by the aid of a few scraps of rosined stick or paper and the bellows. The first smoke and fumes are carried up the chimney, and in four or five minutes' time one has at one's disposal a cherry-red fire, such as with coal requires much space, labour, and waste to attain. The cost is trifling in the fuel; there is no smoke, no pots consequently blackened; no soot; no food spoiled by the gaseous flavour of a flary coal. The fire once made use of, if necessary, is almost instantaneously put out by a special cover, or, if it is required, kept on at small cost either by fresh charcoal or by the aid of a machine-made fuel, termed *charbon de Paris*, a mixture of charcoal dust and earth, and such as is largely used under another name, if we mistake not, on all our railway lines. The facility with which the tile-stove can be kept clean, a damp sponge being only necessary to wipe away any dirt; its agreeable effect when alight, its unobtrusive utility, its cheapness in the first place, the small space it takes up, never fail to charm the foreigner who is fortunate enough in residing in the capital, to be able to leave his hôtel and take an *appartement*. With the invariable adjunct of the sink, and a constant flow of water, in the newer houses, for it is chiefly in these that such kitchens as we describe * are to be found, a plentiful supply of shelves, a cupboard, a safe, and other conveniences, a French kitchen offers a contrast to the ordinary English kitchen with which it is impossible for the most insular Britisher not to be struck.

We have been led far from the Exhibition and its kitchen exhibits: suffice it to say, that of such stoves as those we have above mentioned there are not a few examples, all at very moderate rates, from 1*l.* upwards; of cast-iron stoves burning coal and coke, also at very reasonable rates, there are a number, all excellent and worthy recommendation; indeed, the patriotic housekeeper who knows the expense of the regulation English kitchen-range would be sorely tempted, if she were on the point of furnishing her new home, by the small-priced, large, and serviceable ranges shown in the French Exhibition at present open. In all modesty, we would advise our stove and kitchen range makers to carefully keep an eye on their foreign competitors, who at any moment might take from them a large portion of their, even as it is, hard-won profits. Many years since an eminent manufacturer in this important branch of our commerce, assured us that it was but British prejudice and want of energy on the part of our neighbours that prevented the English public from using only foreign stoves. Since then, both in England and abroad, improvement has steadily progressed in the trade of each.

The petroleum stoves, which have, within almost a few months, been so greatly perfected as to enable, for example, a piece of bread to be toasted above their flame without the slightest disagreeable flavour being imparted; the innumerable spirit-lamps and portable cooking-machines, which so exactly suit the foreign mode of life; the patent coffee-pots; the small and costless stoves, by which, even with the use of charcoal, can be roasted whole joints and fowls as well as by the open sea-coal or wood-fire; and the hundred other appliances, not neglecting the very impracticable apparatus

* An excellent dinner for ten or twelve people can be easily prepared in such a kitchen little more than 5 ft. square.

which figured so conspicuously at last year's Exhibition, and here is relegated to a forgotten corner, for concentrating and utilising the sun's rays,—when they are to be found,—should all be noticed by the visitor.

Arrived at this point, with so many inventions for the benefit of both rich and poor, it may be asked what has become of the joyous old kitchen of the past, and its huge fireplace, in which crackled and spluttered under the blackened and antique pot on the still blacker hook, the old logs lighting up the barely-decipherable arms or the allegorical emblem of the old fire-plate, glistening on the polished dogs, and flashing in the lustred glaze of the quaint Dutch tiles? All has passed away, and with it the old ingleside and circle of friends and relations that gathered round the blaze, while the wind and the rain or the snow whistled and drove against the ill-shut casement and the rattling doors. Those days have passed and now we demand in their place the even wider-spread application of the teachings of science to our art and to our industry.

## BERWICK-ON-TWEED.

Coursing due north, the traveller, after leaving Newcastle, may know no stoppage till he hears the name of the old Border town ring in his ears, and a confused army of little lights is scattered about, if it be night, whilst the daytime gives him passing glimpses of where "gloom the dark broad seas" such as Ulysses knew, of the villages that lie low on the shore, and of the wonderful viaducts and bridges that lurk about the borders of the two countries. Berwick is one of the towns which are decaying to some extent in importance, but which cannot be obliterated. Rail at Berwick as you will for its electoral corruption, or point to its comparative want of trade, and the memories of its past reproach you. The old royal borough has interest for all who know its value in the past,—its antiquity, its associations, the fights it has seen, the tokens of its strength,—all give to Berwick an importance its size would not entitle it to. It is to a large extent unchanging, though changing; like its Tweed, its components are renewed, but its total knows little variance from age to age. You enter its still streets, and you feel as if you had stepped into a past century,—as if you had gone back into the locality of one of the towns in Scott's novels,—and till you leave the town you retain the idea. How largely the description of Berwick in the past would serve for that of the present may be in part indicated, and in the process the points of divergence may be shortly traced.

Forty years ago, the town, "of Saxon or Teutonic origin," an ancient Scots' town, then a free one, then a bone contended for often and dropped ever and anon in the fight,—forty years ago Berwick-on-Tweed was losing its claims to remembrance as a warlike place. The gates and drawbridge still stood, the "cannon had for some time been removed to Leith." The ruined castle was the principal object of attraction to the antiquary in the town. The fine bridge of hewn stone is indicated, with its many pillars and their outlets. The corporation was composed of mayor, recorder, bailiff, and burgesses, whilst the burgess-elected aldermen were life magistrates. It had two members, returned by 699 electors. Its trade was of salmon, and in grain; and it was a bonded port for "timber, wines, and colonial produce," as often were then "prosperous commercial seaports" like itself. The flat-roofed Gothic church is described, and in addition there were the "high meeting-house and the low meeting-house," two chapels for the United Associate Synod, and Baptist, Methodist, and Catholic chapels. It had its valuable schools, a newspaper, and its inhabitants numbered 8,920 in 1831 for the parish, the number for the borough being 13,801. Tweedmouth had its extensive iron-foundry, and "railway connexion with the neighbouring coal-mines," whilst Spittal was "chiefly inhabited by fishermen and colliers," and a railroad is described as "running through the main street." In those days the one bank was that of Batson, Berry, & Co.; there were many fishmongers; a couple of linen-weavers lingered; and a good many nail-makers. The custom-house had a staff of four; there were seven coaches passing through the town, and many carriers called there; whilst "regular traders" sailed and called on the passage between Hull, Newcastle, and Leith; and the Berwick Shipping Co.'s vessels, six in number, sailed twice a week in summer to London. In these facts is outlined the Berwick of forty years ago, and many of them still hold good as describing the town of our own time.

The extent of the borough is now 7,048 acres; the population at the last census was 13,282, so that the borough, as a whole, has known a slight declension; the number of inhabited houses was at the same period 2,102; and it still returns its two members,—the number of the electors being 1,336 in 1871, and 1,348 at the latest period for which we have returns,—1877. It is comparatively a rich place,—the property and profits assessed to the income-tax under the several heads being in the total about 162,000*l*. It is not a large shipping port,—some twenty-three vessels entering yearly, only of a tonnage of 6,407,—to foreign countries; whilst the home trade makes the total about 261 vessels and the tonnage 32,339. There belong to the port twenty-six vessels,—three of them steamers,—of a total tonnage of 2,213. But in addition Berwick is a great fishing port,—owning 540 boats registered under the Sea Fisheries Act, and requiring 2,245 men and boys to work them. Shipbuilding is still carried on at the old port,—the number and tonnage of vessels built being in a recent year two vessels of 278 tons in the aggregate. The coal-mines of the district still yield their output, but it is comparatively small; and the subsidiary industries of the town, the port, and the district have to a large extent unchanged during the years that have elapsed in the period over which the comparison referred to is drawn. There was down to a very recent period little or no attempt to develop the industries of the port, and thus the town dragged its trade along,—falling back in the race as other boroughs and ports developed themselves.

There has been a slight change in the grim old Border town within the last few years, and for the better. It has shaken off some of the evil habits it had acquired, and especially in electoral matters. It is acquiring at the present time, in its district, fresh railway facilities, and there is much more evident than there was an intention to make the most of the natural resources of the town. But it is also certain that Berwick lacks some of the pre-requisites for great and rapid growth; and without a very large addition to its resources and its trading facilities, the dry rot that had, through age and infirmity, entered into it will prevent at least any marked growth. It is, without some great commercial cause, difficult to overcome the tendencies to decay in ancient towns, and to this rule the exceptions are few. If this dictum be thought a harsh one it may be readily justified, and in the case in point its truth may be proved by an industrial map of the kingdom. There are few industrial tokens in or about Berwick except those that have been thus shortly indicated, and at the present time there does not seem any very marked tendency to plant new ones. The town should be the centre of a vast agricultural and fishing district, and its position on the great northern route should benefit it materially; but of recent years these advantages have not been made the most of, although in this respect there is a change becoming more and more apparent. It is true that this is partly forced upon the old town, for to stand still is to fall back in the race now-a-days,—a maxim applicable to communities as well as to individuals. Berwick needs to take heart, and to develop its own advantages,—to cultivate both land and sea,—to introduce scientific improvements into its fishing industries, and to make itself more known as a centre for agriculturists. It needs, moreover, that its local governors should energetically use their influence for the well-being of their borough in sanitary, social, and industrial matters, and with this the future of Berwick would be more prosperous than the past has been, and more worthy of the repute of the famous old Border town.

**Hartshead**—The restoration of the Norman church at Hartshead, Yorkshire, has been decided upon, and the work is to be entrusted to Mr. W. S. Barber, architect, Halifax. It is stated that none of the ancient work, nor of the well-preserved old oak, will suffer by the restoration. The old roof and the fine oaken pews will be untouched, and respect will be shown for the ancient monuments which it is essential should be preserved. The expense of restoring the chancel will be borne by the lay impropriator, Sir George Armytage, bart.

## FROM THE BANKS OF THE SEINE.

The recent strikes in the building trade have, it can easily be imagined, been the chief source of interest in the professional world here. In the early part of the week no little apprehension was felt at the announcement that these were only the precursors of a sudden cessation of work on the part of all the branches of the trade, and that the stone-carvers, the rough-casters, the painters, the plumbers, and the locksmiths were all about to demand an augmentation of wages. Fortunately, however, this proves to a great extent untrue, though it is feared that such a proceeding is alone a matter of time. An important meeting was held in the course of the week by the joiners, who have now definitely struck, and in which firmness in their demands was enjoined on all the members out on strike. It would appear that the masters have agreed to the increase of wages, but energetically express their right to retain the power of putting out their work, and paying every fortnight. The joiners declare that they, of all the trades employed by the builder, are the hardest worked, and therefore comparatively the worst paid. The position, as we write these lines, has not as yet changed, and we shall probably have to wait some days before any arrangement is made. It cannot be too deeply regretted that such a misunderstanding should have arisen, and whenever these strikes occur, whether at home or abroad, the many burning questions connected with the relations between the employers and the employed never fail to be unsatisfactorily discussed.

Whether the men are wise, even as respects themselves, in striking, is a question which can scarcely admit of discussion; though the workman may gain momentarily, his fellows soon obtain an increase, and the old relative position is reached with the additional inconvenience of a rise in the price of necessities. The immediate effect of the recent strikes in the building trade in Paris will shortly be felt in the rise of rents, which it will be impossible for the proprietors to avoid, and so in course of time the workmen will only suffer through their want of thought.

While this sad antagonism is being fought out in the building trade, in the artistic world, fortunately, no such feelings are expressed, the only antagonism existing taking rather the form of wholesome emulation. Last week was marked by two competitions, both important and interesting, as showing the power of the artistic world of this artistic capital. There are cynics who say that competitions never bring forth the right men; it may be so, and certainly this view seems to receive some degree of confirmation in the result of the two competitions to which we are referring.

The first of these is the exhibition at the French Institute of a number of landscape-painters who have competed for the prize founded by Mdme. Esther Troyon. More than fifty artists competed, the subject given being not an uninspiring one,—a shepherd leading to pasture a flock of goats near to a watercourse sheltered by overhanging oaks. The judges who had on Saturday to award the Troyon prize for the best landscape must have found it as difficult to determine as it would have been had their duty consisted in giving the award to the worst picture. The great art of landscape composition is just now entirely neglected in France, notwithstanding that the French claim in Claude and Gaspar Poussin that they have produced,—as, indeed, they lay claim in all spheres of art,—the greatest masters. To the credit of French painters and critics, they were the first to regard as a great teacher the English landscape-painter, Constable; and they at one time were enthusiastic admirers of Martin and Danby. The exquisite painter of the forest of Fontainebleau, Diaz, aspired occasionally to invent and compose landscapes, assuming to glow with the superb mystery of Venetian artists, those finest of all landscape-painters, who caught their inspiration from the distant view of the Cadore mountains, and the occasional trip into the lovely country, on *terra firma*, to the north-west of their gorgeous architectural home. But the French just now, notwithstanding their warm appreciation of the landscape introduced into the lovely pictures of Breton and Millet, confine themselves to the realisation of agreeable but common-place scenes, and seem to despair of any attempt even to emulate the poetic effects of Troyon, Rousseau, and Corot.

A very much more important competition

has also at this moment to be determined, that for the colossal monument to be erected on the Place du Château d'Eau, to commemorate the establishment of the French Republic; a monumental work which is to exceed in importance any sculptural achievement since the tomb of the De Medici, at Florence. As many as seventy-eight ambitious competitors have regarded themselves as equal to the great work, and as many, with the exception of two or three, have altogether failed to show themselves in any way competent to carry out so "big" an undertaking. A very limited acquaintance with French art will allow any one at a distance to imagine the sort of design that Parisian artists would consider appropriate to do eternal honour to the triumph of any of their own pet theories; and if the time should ever come when they in their gratitude should determine to erect an enormous statue to our own countryman, Mr. Worth, we can believe that they would, with easy adaptability, utilise precisely the same attributes with which they so lovingly and lavishly surround all their decorative triumphs and historical glories, to which end we strongly suspect MM. Bernard and Larche and M. Gautherin's exceedingly grand and collaborated design is the one most likely to be selected for the purpose. Certainly, in modern days, we cannot recall an instance where architect and sculptor have worked so affectionately together, and so immeasurably superior is this design to all others exhibited that we are disposed to think that if it were not for this great work the jurors could not have found another design,—not even M. Dalou's from London,—that would justify them in arriving at a decision.

In this competition for the colossal statue of the Republic to be erected on the Place du Château d'Eau, out of the seventy-eight models three have been chosen; for the competition is only a preliminary one, and MM. Gautherin, Morice, and Soitout will by next spring have to execute, a third the natural size, that is, some 7 ft. high, another model of the figure of the Republic. Among the six honourable mentions accorded appears the name of M. Dalou, the merits of whose excellent and spirited group have gained considerable applause since the first day's impression. But the enlargement to colossal proportions of his model it was alleged would hardly be satisfactory; we hope that M. Dalou will exhibit his talented work at next year's Royal Academy.

With the return of the winter commence again the long hours of study; in a few days the École des Beaux Arts opens for its new term of 1879-1880. It is curious to see in the number of young artists admitted to the École, 970 painters, sculptors, engravers, and architects,—that these latter alone are to the number of 536. We may, indeed, envy these happy aspirants to fame, for whose professional and intellectual development such a tempting and complete series of lectures is offered. These are to the number of sixteen:—Drawing, anatomy, history and archæology, sculpture, perspective, æsthetics, and history of art (this course by M. Taine); in the section of architecture,—mathematics, descriptive geometry, stereotomy, or preparing of plans; geology, physics, and chemistry; construction, perspective, legislation in architecture; history of architecture; theory of ornament: with a number of courses of lectures common to the painters, the sculptors, and the architects, on ornamental drawing, and decorative art. There are eleven *ateliers* or work-rooms; three for painting, three for sculpture, three for architecture, one for engraving on copper, the last for medal engraving,—all directed by eminent artists: Cabanel, Lehmann, and Bougereau, Laisne, Andre, and Guadet, among the painters and architects; while a fine-art library and a museum of copies and casts are entirely at the disposition of the pupils. Such is the course of instruction given gratuitously by the École des Beaux Arts, and certainly the details would tend to show the reason for that technical superiority of the foreign artist, about which Mr. Poynter not long since spoke so warmly.

We are offered for the coming Parisian season a number of artistic novelties that bid fair to be both attractive and instructive. In the first place, by the indefatigable energy of M. Turquet, the Under-Secretary of State for the Fine Arts (why do we not in England have our Under Home-Secretary specially to look after artistic matters?), orders have been given to the authorities of the Historic Monuments Commission to collect all the working drawings and plans left by the late M. Viollet-le-Duc at the different points at which he was so industriously occupied in his conscientious restorations. We may look forward with the certainty of enjoying a rare treat in this exhibition of the works of an architect whose unaided skill as an artist, as a draughtsman, and a master of technical detail, is familiar to the profession, and whose teachings have produced not a little effect on the younger generation of our architects. Such an idea of collecting after his death the sketches and works of an artist cannot be too highly commended, and here in Paris almost invariably follows the decease of a well-known painter or architect. In England our exhibitions of the collected works of deceased masters have always proved successful, and the promised exhibition of Prouts and Hunts will certainly be one of the features of the coming London winter season. A correct judgment of an artist's power is materially assisted by the facility of comparison afforded by such exhibitions. And, *apropos* of Viollet-le-Duc's collected works, the Institute of British Architects should arrange to bring together the many exquisite sketches existing of the late Mr. Edward Blore, which we do not hesitate to say would form a remarkable exhibition.

Of the Museum of Comparative Sculpture and Architecture, which is, we believe, at present steadily progressing, we have already spoken, but we are promised for a period less distant the opening of the permanent exhibition of what the French call the "Garde Meuble,"—a function in some guise filled (in the keeping of the Crown regalia) by our Tower of London. The new exhibition promises to be a substantial addition to the many other attractive shows of this capital. There are to be four large rooms, all hung with the traditionary studious green hangings, but in this case of silk. The first of these rooms is to form the library, the second a work-room, specially set aside for the use of painters, designers, and amateurs, who will be duly authorised to study or reproduce any of the exhibits. The two remaining rooms will be occupied by various pieces of old furniture, but the principal feature of the exhibition, indeed of the Garde Meuble (a species of Government Pantechnicon) is the superb historical pieces of tapestry which it has possessed ever since the days when Henri Quatré established that great industry in France. These tapestries will be shown in series of three months, in order to lay them successively before the public. The six large pieces in the principal room were reproduced from cartoons by Mignard at the Gobelins Works, from 1690 to 1694. In the second room there are four other pieces, also allegorical, by Lebrun. The Garde Meuble, it may be remarked, possesses no less than 800 pieces of tapestry.

The series of strikes, from which we in England seem for the moment to be happily free, but which have proved already so serious in Belgium, are progressing here in France, particularly crippling at an important period the building trade. So far from the difficulties having been arranged, they are only becoming more complicated; and now a fresh source of dispute has arisen in the matter of the prices fixed by what is called here the "*série*"; in explanation of which it may be stated that once a building in Paris is completed, it is the custom for the contractor to have the work verified, and the detailed result is presented to the client; this memorandum (technically termed *mémoire en demande*) is again verified by the agent of the client, but only with a view to seeing if the prices set down by the contractor tally with those which the municipality of Paris have allotted for such work; if all is satisfactory, the memorandum is duly approved. It would appear that a generation or so since, the "*série*" was not accessible to the public, and it was only in 1840 that M. Morel collected in book-form the official prices; this tariff existed till M. Haussmann regularly established, by a council of architects, the "*Série des Prix de la Ville*;" since then (1865) a reduction has been made in the prices, and as late as 1878 a new *série* was settled; it was, therefore, fully expected that on this tariff the present season would rest; the strike has now come, and the *serie* will again have to be revised, entailing with it innumerable difficulties direct and indirect.

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**The Earl of Bradford** has offered to present to the Walsall Town Council 46 acres of land for a recreation-ground.

## THE TRADE IMPROVEMENT.

Reversing the poetic aphorism, in one sense, but fulfilling it in another, the star of trade is deriving benefit in the East from the West. If it be true that "westward the star of empire wends its way," it is at the same time true that the East benefits largely from it. America has become prosperous, and that prosperity is being reflected on British trade. We have for the last few months had to purchase large quantities of breadstuffs from the United States and from Canada, and these countries are now beginning to take in iron, steel, and other of our productions, so that there is a fuller demand for our goods than has been known for years. To meet the low demand that existed we had lessened very greatly our production, and we had lessened also our prices, so that when this rush of American wants came into our market it necessarily found a very marked result follow. Hence prices rose rapidly, and though they have not retained the whole of the speculative improvement then gained, they are yet changed (where product was free for sale at market rates),—changed from often unprofitable prices to very high prices in comparison, and prices that necessarily pay. The first benefit, a benefit which is scarcely known beyond the limits of those who are concerned in the trade, was reaped quietly by some of the chemical manufacturers who supply American houses. Then the long-depressed tin plate-makers felt a slight improvement in their trade, and after this the wave of prosperity gathered strength and burst in on the crude iron market with almost a flooding effect, driving up prices and stimulating production.

The intense dulness into which the iron trade had fallen may be readily conceived when it is stated that in the Cleveland district more than one half of the furnaces were idle; that in Scotland a rather larger proportion was idle; that in South Staffordshire only two dozen furnaces out of a total of 147 were at work; and that in other districts there were large numbers of furnaces idle. Prices were at a lower ebb than had been known for years, and demand was greatly reduced by the falling off in the German requirements, owing to the imposition of heavy duties. Thus, the market was at its flattest, and the American demand came as a great inflater. It is certain that that demand was on a large scale, for in September we shipped 32,000 tons of pig iron to the United States, or about as much as during the whole of last year; that our iron rail exports rose from nothing to 8,400 tons; and that in nearly all classes of iron there was a very large increase. It was to be expected that these large shipments would affect prices, more especially as they were the forerunners of others. Since the close of September the shipments have been on an increased scale, and with stocks declining it was inevitable that we should have a rise in prices, and an attempt to increase the extent of the production. Hence prices began to rise, and it is certain that speculators who had money idle at the bankers' began to rush into a trade of which they knew little or nothing, so that an abnormal inflation of prices began to take place. When prices of iron had risen more than 50 per cent. this inflation had attained its maximum, and in consequence there has been an after-fall, which will cause for a time the tidal trade-wave to retreat, but to return and reach a still greater height when it has gathered strength. Meantime, the effects of the revival in trade are manifest. Our exports have swollen largely; furnaces and forges are being put into operation in most of the iron-producing districts; and there is necessarily a very greatly increased demand for ironstone, for coal, and for lime; and a considerably larger number of workmen are now employed in smelting, in mining, and in manufacturing iron. Nor does the influence of the revival end here, for it spreads to the great carrying systems, and will cause the traffic returns to show a speedy increase after two years of dwindling, and thus the influence of that revival already permeates whole districts.

But it is not only in the iron and steel trades that that revival is felt. The great prosperity of the United states has enlarged the purchasing power of her people, and we have a double benefit from this. Not only do we ship more of certain classes of goods, but we have also less competition to meet with from the United States makers of certain articles in neutral

markets; and thus it is noticeable that we are shipping to some Continental countries larger quantities of some goods. For instance, of steam-engines considerable shipments were made a year or so ago from the United States to Russia; but now that the American needs are greater, we derive the benefit of the Russian orders, and there is a most satisfactory growth in our shipments to the Russian ports during the last few months. Generally, it may be said, that during the first few months of the present year we sent out much diminished values of our goods; but in the last few weeks the great increase in quantity and the swelling in price have caused the value to bulk out very considerably, and hence our exports for the year promise much better than they did. As our foreign trades grow our home trade will very speedily respond, for with trade as with water, the circle widens as the time passes, and a very slight impetus is distributed over a very large ground. But it must of necessity take some time, for the effects of prolonged depression are not overcome in a day. But when once the impetus is given to the wheel of trade, the momentum is long before it is lost; and this is so with that which takes its start from the United States. Again, taking the iron trade as an example, it may be said that whilst prices were falling manufacturers of iron kept their stocks as low as possible; but now that the tendency is towards an increase, it is inevitable that there should be a change, and not only is this the case at home, but abroad. This applies to iron in its many shapes, and thus there is now a comparatively large demand for iron goods, sellers being anxious to place orders before prices rise. The same is true in regard to other trades, and if this continue for a short time longer, we may fairly say that we have more than passed the worst, and that we have entered upon a path of improvement in trade. It is none the less welcome because it has been so long looked for, and it comes at a time when the labour market was almost at an extremity. It is tolerably certain that in some of the iron-making districts of the north the poor-law system has broken down beneath the mass of poverty, and if even there is an immediate benefit from the trade revival as full as it was expected to be, it is to be feared that the coming winter will still be a hard one, and hence the revival of trade comes not before its great need has been felt. It is too soon to speculate as to the extent to which the various districts of the country will be benefited; it seems probable that the ironmaking districts will reap the first benefit, but after it has once been so gained, it must spread to all the trades that depend upon the masses. The mineral industries are now benefiting, and if that benefit continues the north will become again prosperous, and will again become so large a consumer of the products of other parts of the country, that the trading and agricultural distress, of which so much has been written, and which has affected all classes, may soon be expected to be at an end.

## THE SANITARY CONDITION OF DUBLIN.

We recently* gave a few notes of the evidence adduced during the first two or three sittings of the Royal Commissioners appointed to inquire into the sewerage and drainage of the city of Dublin. The Commissioners are Mr. Robert Rawlinson, C.B., and Dr. McCabe, Inspector to the Local Government Board. We append some additional extracts from the evidence.

Mr. Parker Neville, the City Engineer, stated that since the abandonment of the main drainage scheme of 1870 the township of Rathmines and Pembroke had obtained an Act enabling them to carry out an independent system of drainage for themselves, and they were carrying it out. He had gone over all the estimates of the main drainage scheme of 1870, and believed that, altered to meet existing circumstances and prices, it could be carried out for the city for 350,000*l.*, and of that 50,000*l.* could be saved if the proposed storage reservoir at the North Bull were abandoned, as he believed might be done.

Mr. Commissioner Rawlinson.—Have you estimated the probable cost to the citizens of removing street refuse and domestic scavenging under the New Public Health Act?

Mr. Neville.—I have no data for an estimate, but I think the scavenging will cost from 35,000*l.* to 40,000*l.* a year. Hitherto the Corporation have had about 12,000*l.* a year for street scavenging. There never has been enough of money to keep the streets clean, and the cost of carrying the refuse and the difficulty of getting rid of it are very great. If the cleaning of the ashpits were taken out of the hands of the tenants and done by the authorities, it would add very considerably to the cost of scavenging the city; but, on the other hand, it would be well done, and, as against the rate which would have to be imposed, the tenant would save what he at present paid for getting the work done.

Mr. Neville, in answer to Mr. McCabe, said a very small portion of Dublin was unsewered. He was perfectly sure the house-drains constructed under the direction of the Corporation officers were all right, but that did not amount to one-half or one-third. For instance, in Mountjoy-square, out of fifty-nine or sixty houses, there were only seventeen houses with proper drains. Any sickness that occurred in the district was not owing to the main sewer, which was quite sweet, but from the defective house-drains. He did not think that was an exceptional case. A very considerable proportion of the best class of houses in Dublin were as defectively sewered as the poorer ones. All the sewers were now being ventilated by ventilators in the centre of the street.

At a subsequent sitting, Mr. Neville detailed the direction of the proposed main sewers and intercepting sewers. The northern high-level sewer commenced near Arbour-hill and was discharged at the North Bull, where there was a reservoir. He intended to do away with that reservoir, which would be a saving of 50,000*l.* The southern high-level sewer began in Lower Mount-street, and joined the northern at the head of Sackville-street. Witness described the course of the intended low-level and intercepting sewers.

The Chairman.—I had better say now that I very heartily approve of the adoption of the circular form for sewers of this character in preference to the egg-shape. I think you have done very wisely to adopt the circular. Is there any part of the work that will be specially difficult in consequence of quicksands or defective stratification?

Mr. Neville.—I do not think we shall meet any difficulties that way. The estimate of the cost of intercepting sewers was 300,000*l.*, that was omitting the reservoir and the pumping power capitalised. The diameters of the proposed outfall sewer at Clontarf was 9 ft. by 7 ft. The grade of the sewer was 2 ft. per mile in the two miles.

The Chairman said 2 ft. per mile for engineering purposes, especially when impeded by the tide, was absolutely for all practical purposes level; they could have no scouring velocity there unless perfectly free from the tide. He knew instances where the fall had been done away with for the purpose of lifting the sewer out of the tide.

Examination continued.—You have had very wide experience now in the city of Dublin, and you have contemplated for some years this large expenditure upon what is called the purification of the Liffey. Do you think the Liffey is really as dangerous to the health of the citizens of Dublin as many persons say it is?

Mr. Neville.—I do not think the state of the Liffey is so injurious to the health of the citizens as the state of the dwelling-houses of the poor.

Do you think if the citizens of Dublin were to content themselves in expending a third of a million upon out-fall sewers, and consider that they had then done their duty by the city, that they would have removed the principal cause of disease?

Mr. Neville.—I think they are bound to do that.

If the main drainage system was completed, would you think the sanitary arrangements of the city satisfactory without the other improvements you speak of?

Mr. Neville.—No, I think the state of the streets and rears of houses has more to do with the high death-rate than the drainage.

Mr. Rawlinson said that the tenements of Dublin were just as bad as it was possible for places to be in which human beings were supposed to reside. At the same time he must say he had not seen anything worse in Dublin than he had seen in what was called rich England. He was happy to say that exposure in other places had been followed by improvement, and he sincerely hoped the exposure which would now take place in Dublin would lead to a better state of things. It was impossible for language to describe anything worse than certain portions of the tenement districts of Dublin. The houses were not fit for animals, let alone human beings. They were not worth one year's purchase.

Mr. Charles Cameron, Medical Superintendent Officer of Health to the Dublin Sanitary Authorities, was examined by Dr. MacCabe, and said he was the senior sanitary officer of the Corporation, having been appointed in 1862. He analysed the sewage from all the main sewers discharged into the Liffey before the introduction of the Vartry water. The only change that had since occurred in it was an increased extent of dilution from the greater amount of water. The mud now deposited on the foreshores of the river containing sewage matter and *detritus* from the soil evolved noxious gases, consisting chiefly of carbonic acid, marsh gas, sulphuretted hydrogen, and the putrid and simple ammonias. He had found every form of life in the water.

Mr. Rawlinson.—In the London mud of the Thames there is a small red worm which multiplies by millions, and is peculiar to sewage water. Have you that in the Liffey water?

Witness.—We have. I have no doubt whatever that the gases from the Liffey exercise an injurious effect upon the banks of the river and near them. I am aware that the rate of mortality amongst those who live on the banks is not high; but my opinion is that the river does exercise an injurious influence upon the health of the city generally on account of the gases evolved. At the same time those noxious gases are to a very large extent oxidised by the very open space near the river. I attribute the lower mortality on the banks to the superior class of houses there in which people of the highest respectability reside all the year round, and which ought not to be compared with houses in Church-street and Plunket-street, but with houses having similar hygienic conditions in every respect save the contiguity of the river. I think it would be desirable to have intercepting sewers. I am of opinion that cities built on rivers with estuaries into which sewage matter is conveyed are more or less unhealthy. Dublin occupies a naturally unhealthy situation, many of the basement stories of houses being several feet below high-water mark. If the city sewage could not be conveyed out to sands several miles distant, I think the farther down the estuary it is brought the better.

To Dr. McCabe.—After having examined premises of all classes, I have come to the conclusion that the immense majority of the houses in Dublin are imperfectly sewered, and the sewers badly made. In fact, the house-drains are as bad as bad can be. As a rule, water-closets are not properly trapped and ventilated.

What is your opinion of the tenement houses of Dublin?

Mr. Cameron.—I cannot express as favourable an opinion of them as of the water supply. A very large proportion of them are in a most deplorable state, and overcrowded. We are constantly endeavouring to limit the number of occupants of rooms, but it would almost require a policeman at every house to prevent overcrowding. Great credit is due to the company who have established industrial dwellings, but the people who inhabit them are persons who pay rents of from 3s. 6d. to 6s. a week, and are not those who give the sanitary authorities trouble at all. The persons I speak of are those who pay from 8d. to 2s. 6d. a week rent, and who number at least 10,000. There is no provision for these except cottages built by two or three private persons. From the tenements of these persons disease is at present spread in every quarter, and for their benefit I think the municipality should provide houses of the smallest description containing one, or, at most, two rooms, and which could be let at from 1s. 6d. to 2s. 6d. a week. Mr. Kenny has erected some comfortable cottages in James's-street, the rent of which is 2s. 6d. a week. An immense number of persons at present pay 1s. 6d. a week for one room, and sometimes they get two. The Corporation could not provide two rooms at 1s. 6d. a week without losing heavily, but I think they should provide small cottages of the kind. It should be the most important work in which they could engage. Eminent citizens might do something to provide a limited number of houses, but it would not be fair to expect too much from them. Our mortality largely depends upon diseases of the organs of respiration caused by damp, which would be diminished in the

* See p. 1137, *ante*.

streets if every street were paved, but as that would involve an enormous expense it is not likely to be done.

Alderman McDermott, chairman of the Artisans' Dwellings Committee, was examined in reference to the action of the Corporation taken under the Artisans' Dwellings Act. He said that the Act, having been passed in the year 1876, the Medical Officer of Health reported twelve unhealthy areas. Of these the committee selected two to commence operations on. One of those selected was the Coombe, which, as one of the worst areas in Dublin, the committee considered an excellent one to test the scheme. The scheme was confirmed by the Local Government Board in May, 1877. 20,000*l.* was applied for and obtained in February, 1878. The Corporation valuator made an award of 11,149*l.*, and the arbitrator awarded 14,421*l.* The committee expected to commence operations at once. The number of inhabitants on this area had been 1,000, and it was proposed to provide accommodation for 1,100 people. No large businesses were carried on in this area. There were no public-houses, and the Corporation had thus not been obliged to pay large compensation for profits. It was estimated that with legal expenses, &c., the total cost to the Corporation would be about 17,000*l.* Only 5,000*l.* or 6,000*l.* would be realised. The remaining 12,000*l.* would be provided by taxation, at the rate of ¼d. in the pound for fifty years.

Mr. Richard Hassard, C.E., next tendered himself for examination as to his scheme for the drainage of Dublin. He proposed to collect all the sewage of Dublin, to remove it to a point on the north side of the city, and then to deliver it at a point into the sea on the east side of the Hill of Howth. This plan would not involve the expense that might be supposed. In the month of August, 1874, he had written to the Corporation undertaking to carry out the plan for 340,000*l.* for the works. The letter was marked "read," and no answer was sent to it. The Corporation were authorised to raise 350,000*l.* for the purpose, and his plan was, therefore, within the amount. Mr. Hassard then read a statement of his plan:—It only dealt with the sewage of the metropolis and the townships of Kilmainham, Drumcondra, and Clontarf, the townships of Rathmines and Pembroke having commenced to construct a drainage system for themselves. Mr. Hassard proposed to make five great main sewers for the north and south sides of the city and townships connected with it. These would be united by one passing under the Liffey, and would have inclinations varying from 8 ft. to 2 ft. 8 in. per mile, and would effectually intercept the sewage of the whole locality. The sewage from these would be received at a pumping-station at Clontarf, where it would be pumped to a height of 27 ft. into a main outfall sewer proposed to be carried by Raheny, along the Howth-road, and through the Hill of Howth by a tunnel about a mile long, until it ran out at a point about a quarter of a mile to the south of Pucks Rocks on the Nose of Howth. The outfall would be about 3 ft. below mean high-water mark, and the sewage would be delivered in a constant stream into a deep and rapid tidal current, at a place where there is no breach or foreshore on which sewage could be deposited, the cliffs being lofty and going down into deep water. The main outfall sewer would be eight miles and a half long, and would have a fall of 1 ft. 6 in. per mile. An engine working up to 360-horse power would be required for the pumping, and the annual expense of pumping would be about 3,600*l.* The cost of the entire scheme would be 422,000*l.* The population of the city and townships being about 272,000, the cost per head would be about 31s.

Mr. Palles, C.E., was examined on the 7th inst., and gave details of his scheme for metropolitan drainage. He mentioned that by a resolution of the Corporation, of August, 1874, Mr. Cotton, the Local Government Board inspector, Mr. Price, C.E., and himself, were appointed to examine plans for the purification of the Liffey. They made a report which had already been put in evidence by Mr. Neville. The plan he now submitted was a modification of what was put forward in that report. They proposed to utilise the outfall sewer at present in course of construction by the Rathmines and Pembroke Commissioners, and which discharged at the White Bank on the north side of the South Wall of the Liffey, using that sewer for the discharge of the whole of the sewage of the southern district of the city and Kilmainham township. A storage reservoir would be required at the White Bank, and the outfall of the sewer should be carried 800 yards further down, so as to discharge into the river channel about three-eighths of a mile inside Poolbeg Lighthouse. It was proposed that the sewage should be discharged only during the four hours when the ebb-tide ran strongest. The sewage of the north side of the city they would deliver into a concrete reservoir, to be constructed on the east side of the new docks, from which it would be discharged into the deep-water channel of the river during three hours of the strongest ebb. The whole sewage would thus be carried out to sea, and from the way in which the tidal currents ran outside Poolbeg he maintained that it would not come back. High-level intercepting sewers would have to be constructed on the north and south sides of the city, by which the sewage would be collected from the existing sewers, and conducted in the one case to the reservoir at the new docks, and in the other to the new Rathmines and Pembroke township sewer. The cost would be 224,445*l.*, which would include the capitalisation of the expense of pumping the sewage of the lower district of the city, and also a payment of 15,000*l.* to the Rathmines and Pembroke Commissioners for the use of their sewer. Interest on the cost, at 5 per cent., would be 11,222*l.* A rate of 4d. in the pound on the valuation of the districts proposed to be drained would give 11,250*l.*

To Dr. Norwood.—He did not propose to utilise the sewage.

Mr. Price, C.E., was examined in support of the scheme, with which he was associated with Mr. Palles, and stated one advantage of it was that the mixing of the sewage with the salt water of the river would take place in still water, whereas in the case of an outfall below Poolbeg, the waves caused by south-easterly winds would throw the sewage back. He believed the effect of the mixture of salt water was to render the sewage harmless.

Mr. Rawlinson said there was strong evidence the other way,—namely, that the product of a mixture of sewage with salt water was more injurious than the result of a similar amount of sewage mixed with fresh water. The present depth of the river channel was due to dredging, and the probability was that if that operation were discontinued it would fill up again. Therefore the Port and Docks Board would look with jealousy upon any scheme that would affect the depth of the river channel.

Mr. W. J. Doherty, C.E., contractor for the rebuilding of the Carlisle Bridge, said he had for a long time taken a great interest in the main drainage question, and possessed some knowledge of it, having on two occasions tendered for the plans for carrying out the drainage of Dublin. In 1873 he tendered for 775,000*l.*, which was 100,500*l.* under the next lowest tender; and again, in 1874, for 480,000*l.* It was now admitted that the most economical method of drainage was to discharge the sewage into the sea. The utilisation of sewage was now an admittedly exploded theory. Dublin was naturally divided into two portions by the River Liffey, and he, therefore, proposed that there should be two outfalls, one on the north side and the other on the south side. His estimate for his scheme was 250,000*l.*, and he would undertake to carry it out himself for that figure.

To Dr. Norwood.—His plan provided for Drumcondra, but not for Clontarf, which would carry out a drainage scheme of its own at a cheaper rate than by joining the scheme. He thought that part of the city of Dublin could be drained into the Rathmines sewer.

Mr. Rawlinson said he would like to impress on all the engineers that no magnificent or grand plan was wanted. The question was, what would be adequate to meet the requirements at the least cost? He did not care about a grand scheme unless it produced grander results than a plain one.

Mr. Doherty said the cost of materials was now very much lower than in 1873, when the estimated cost of the drainage scheme was 775,000*l.* Iron, for instance, was then 12*l.* a ton, now it was 5*l.*

Mr. Rawlinson said the city had had a great escape from a great increase of taxation to carry out that very expensive plan.

On the 9th inst., the Commissioners proceeded to view the sites of the proposed outfalls of the several drainage projects that have been suggested to them.

Mr. James Dillon, C.E., was one of the witnesses examined on the 10th inst. He said he was Vice-President of the Institution of Civil Engineers in Ireland. He had been familiar with the Liffey for the last twenty-five years, having had his offices on Ormond-quay, opposite to the river Poddle. The Liffey, in his opinion, was a very small factor in the high death-rate. He did not consider the Corporation to blame for the present state of the river, their funds being insufficient to enable them to deal with it. From a table of death-rates which he had prepared from official returns, it appeared that the city death-rate per 1,000 of the population from July, 1876, to December, 1878, was 29·1 north of the Liffey, and 39·9 south of it. Along the entire north line of quays it was only 16·97 per 1,000 compared with 22·1 along the south line of quays. In some fifteen streets forming a junction at right-angles with the north line of quays, the death-rate was 24·90 as compared with 27·5 in corresponding streets joining the south line of quays. The average death-rate of the city was 30·5 per 1,000. The average death-rate of the north line of quays and their branch streets was 20·93 as compared with 24·8 on the south line of quays. In winter, when the Liffey was least offensive and most harmless, the city death-rate was highest. The condition of the streets, tenement-houses, and house-drains was a more important factor in the high death-rate, as it was highest in the localities where those matters were most neglected. There were 105 miles of streets, of an average breadth of 25 ft., or 13,860,000 square feet, exclusive of back yards and alleys. The greater portion of that immense surface, which was six times greater than the entire Liffey from above Island-bridge to the Custom-house, was allowed when the death-rate was highest to remain for days together covered with mud, all kinds of human and animal refuse, and decayed vegetable matter. The abatement of this great source of disease should take precedence of any other work, as it would take less time and money to carry out, and with it should be included private scavenging. He was of opinion that the dirty habits and drunkenness of the people were chiefly due to overcrowding.

Mr. John Griffiths, assistant engineer of the Port and Docks Board, was examined at considerable length by the chairman as to the nature and present condition of the river and port of Dublin generally, the set of the tides, and a variety of other engineering details. In the course of his evidence he stated that the Board would make their Parliamentary powers for the preservation of the port stronger than they were at present, if they could. If Mr. Hassard's scheme, having an outfall at Howth, were carried out, nothing would come back into the port of Dublin, but the sewage would be carried past Howth harbour, and those in charge of its interests would have to look to them.

The inquiry was continued on the 13th, 14th, 15th, and 16th inst., and brought to a conclusion on the 17th. A great deal of valuable evidence was adduced in corroboration of that which we have already given. At the close of the inquiry, the Commissioners expressed their indebtedness to the numerous witnesses who had appeared before them, Mr. Rawlinson remarking that it would be the duty of the Commissioners to recommend to the Corporation efficient practical measures, and at the same time to take care not to forget the question of cash. They should not let ambition run away with them by putting before the Corporation a magnificent scheme if it was not absolutely and essentially necessary for the health and welfare of the citizens; and they should cautiously examine any estimates that should be put before them, in order to see whether they might not be reduced so as to produce the greatest amount of benefit to the city at the least possible cost.

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We greatly regret to have to announce the sudden death of Mr. William Jerrold Dixon, who was acting as secretary to the Royal Commission. The lamented event, the result of heart disease, took place on Monday. During his short sojourn in Dublin he had endeared himself to a large circle of friends by his brilliant talents and frank and generous disposition. Mr. Dixon was the eldest son of Mr. Hepworth Dixon. He was a member of the Bar, and had already given promise of a useful public career. His health had suffered of late years, owing to his prolonged immersion in the ornamental water in Regent's-park on the occasion when so many lives were lost by the breaking of the ice.

## ST. PANCRAS WORKMEN'S EXHIBITION.

We are unfeignedly sorry that we cannot join in that loud chorus of compliments and expressions of admiration which have followed the opening of the St. Pancras Workmen's Industrial Exhibition in Drummond-street, Hampstead-road. It has its good side. It doubtless will encourage a few ingenious and persevering people to spend usefully some of their spare time, and will obtain for a few clever workers the admiration of some of their neighbours; but we have a strong conviction that it is calculated to do more harm than good. To set up for public inspection such an exhibition of pictorial art as is here made, without comment or protest or warning of any sort, is to educate the public taste downwards. The works may be very creditable to the individual artists, considering the circumstances under which they were produced, but to set them up to the public gaze except as examples of what to avoid is an utter mistake and public injury. There are two or three creditable drawings amongst them, but these are lost amidst their dismal surroundings. Amongst the models, too, there are some terrible atrocities, prominently exposed. We unwillingly make these observations,—indeed, we have withheld them for a week; but it seems to us a duty that some words of protest should be uttered as a warning to other local committees. We willingly add that there are some good specimens of carving (which formed part of the recent Westminster Exhibition) and of cabinet work. The building in which the exhibition is held, the Tolmers-square Institute, is intended to accommodate a Sunday School, Penny Bank, Library, and People's Café, and includes a Lecture-hall to seat 700 persons. It has been erected mainly by the efforts of the congregation of Tolmers-square Church, and has cost 10,000*l.*, including the site. The immediate population consists chiefly of the working classes, and help is wanted. The Rev. Arthur Hall is chairman of the acting committee.

## THE REBUILDING OF ANDERTON'S HOTEL.

Although Anderton's Hotel in Fleet-street is one of the oldest and best-known hostelries in the metropolis, it has hitherto been, externally, a plain and unpretending structure. This, however, is no longer the case. During the last twelve months it has been in course of rebuilding, and within the past few days its new elevation has been completed, revealing the most prominent architectural structure in Fleet-street. The hotel as rebuilt has been very materially enlarged, and now ranks as one of the most spacious establishments of this character in London, two adjoining properties having been secured for the purposes of its enlargement. The materials of the Fleet-street frontage consist of fine red brick with Portland stone windows and dressings, very elaborately carved. The east and west sides of the elevation are carried to a height of 78 ft., the central portion being 62 ft. high, and the entire width 52 ft. The ground-floor facing Fleet-street consists of two large shops, one on each side of the hotel entrance. Above there are five floors, all devoted to the purposes of the hotel proper, as well as the rear of the ground-floor, and the whole of a deep and extensive basement. The east and west portions of the elevation contain double mullion windows, the windows of the second floor having on each side and in the centre fluted columns and arched heads, enclosing a profusion of carving, whilst beneath the second and fourth floor windows there are ornamentally-carved brick panels. These portions of the elevation are surmounted by crescent-formed gables, having stone copings and finials. The central portion of the elevation contains bay-windows, and immediately above the first-floor windows are the arms of the Goldsmiths' Company, who are the freeholders of the site. A prominent feature in the elevation is a bold balustrade and balcony, which is carried across the building at the foot of the first-floor windows.

The hotel is approached by an arched-entrance in polished granite, leading into a corridor, 67 ft. long, 10 ft. wide, and 14 ft. high, with pilasters on either side, the floor of the corridor being laid with ornamental encaustic tiles. A special feature in the basement is a large crypt or banqueting-room, 51 ft. by 37 ft., and 20 ft. high. This apartment is primarily intended for the use of the Masonic fraternity, for whom other apartments have likewise been provided. The crypt has a parquet floor, with a skylight in the ceiling, and a sunlight for use in the evening. Immediately adjoining is an ante-room 18 ft. square. On the ground-floor there is a coffee-room, 26 ft. by 20 ft., and 14 ft. high, also a large dining-room, 60 ft. by 40 ft., and the same height as the coffee-room, together with a spacious Masonic lodge-room, having stained-glass windows and decorations, into which are introduced the emblems of the craft. The mezzanine floor, between the ground and first-floors, in the rear of the building, contains a large banqueting-room, 78 ft. by 32 ft., and 14 ft. high. This apartment is also intended to be used as the Masons' chapter-room. Adjoining is a spacious serving-room and ante-room. A stone staircase, 18 ft. square, carried down to the basement, and up to the top of the building, leads to the upper floors. It is covered in with a glass dome. The first-floor contains a ladies' coffee-room, 36 ft. by 20 ft.; three drawing-rooms, each 20 ft. by 16 ft. and overlooking Fleet-street; together with several bedrooms and bath-rooms. The second floor contains a spacious saloon, 40 ft. long by 25 ft. wide, suitable for large dining parties, with serving-room adjoining, also a drawing-room and several bedrooms. The kitchen is on the third floor. It is 43 ft. in length, 26 ft. in width, and 12 ft. high, and fitted with apparatus and cooking machinery, by Messrs. Jones & Dray, of Leicester-square. In connexion with it there is a lift from the basement, worked by steam power, and furnished by Messrs. Bunnett & Co., of Queen-street, Cheapside. The other portions of this floor, and the whole of the fourth and fifth floors, contain bedrooms, which, altogether, are 110 in number. The extreme depth of the building from Fleet-street is 150 ft. and the average width 72 ft.

The architects are Messrs. Ford & Hesketh, of Aldermanbury, and the contractors Messrs. Browne & Robinson. Mr. Robert King is clerk of the works, and Mr. W. Serle, foreman. The estimated cost of the building is from 35,000*l.* to 40,000*l.*

## THE CORNELIUS MONUMENT, DÜSSELDORF.

When, on the 24th of June, 1869, on the occasion of the fifteenth anniversary of the foundation of the Düsseldorf Academy of Arts, that city perpetuated the memory of the eminent director of the Academy, Wilhelm Schadow, by erecting a colossal bust in his honour, it was felt by the artists and lovers of art who were present at the commemoration that it was due to the merits of his predecessor in office, Peter von Cornelius, to place a monument also to him.

Cornelius, one of the most eminent of his age, was born at Düsseldorf, on September 16, 1787. He lost his father, who was inspector of the picture gallery in that city, when he was but sixteen years of age. His parent had given him a superior education, and encouraged the boy's early passion for art. Though at the father's death the family was left in straitened circumstances, his mother resolutely refused to remove him from his chosen profession, and the young artist pursued his studies with redoubled zeal. He was soon able to produce designs of his own, and at the age of nineteen he was employed to paint the cupola of the old church of Neuss, near Düsseldorf, his work displaying considerable grandeur of conception. In 1810 he removed to Frankfurt, where he commenced a series of designs illustrative of Goethe's "Faust." Cornelius soon after went to Rome, which he did not leave till 1819. In Rome he found stanch friends in a kindred genius, Friedrich Overbeck, and others. The circle there formed devoted themselves to the regeneration of German art, an object which they were permitted to attain. Encouragement was given to this school by the then Prussian Consul-General at Rome, M. Bartholdy, who employed its leading members to paint the walls of his villa. To Cornelius two of the frescoes were assigned, "Joseph interpreting the Dream of Pharaoh's Chief Butler," and "Joseph recognising his Brethren." These paintings excited so much admiration that the Marquis Massini commissioned Cornelius to adorn his residence with a series of frescoes from the "Divina Commedia" of Dante. This work he was not destined to accomplish, for, though he prepared the designs, before he could carry them out he received an invitation from the Crown Prince of Bavaria, afterwards King Ludwig, to execute the frescoes in the newly-erected Glyptothek in Munich. At the same time he was appointed Director of the Düsseldorf Academy.

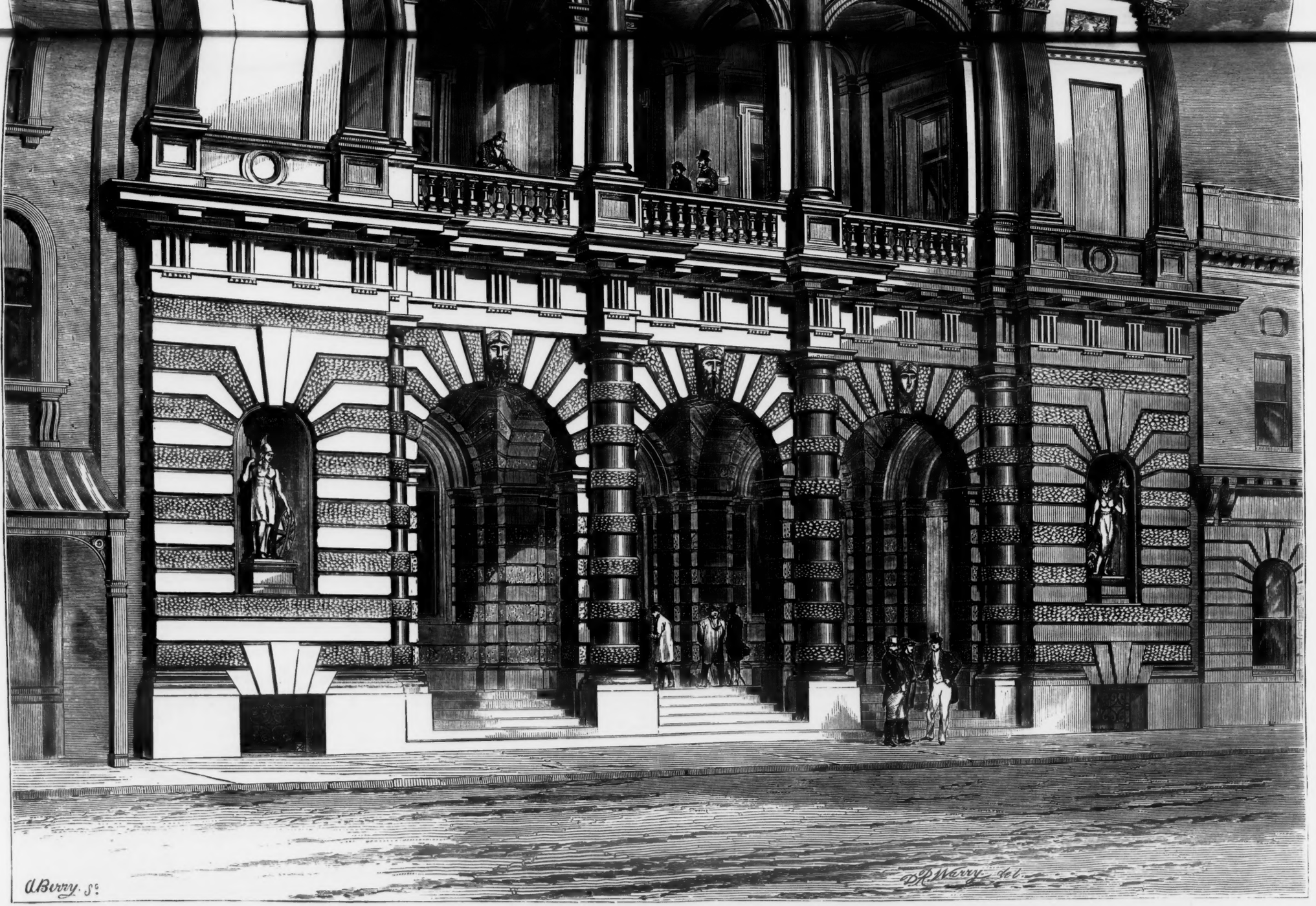
His first task, on assuming that important office, was to remodel the Academy; and he then proceeded to Munich. The frescoes he there painted were not completed until 1830. While this great undertaking was in progress, Cornelius commenced another work, the painting in fresco the walls of the new Ludwigskirche. The most important picture is the "Last Judgment." The execution of those works was the cause of his resigning the post of Director of the Düsseldorf Academy, as soon as he had established it on a satisfactory basis. Shortly after he became Director of the Munich Academy of Arts. In 1841 Cornelius was invited to Berlin by Friedrich Wilhelm IV. of Prussia to paint some frescoes in the Campo Santo. But before completing his cartoons he again visited Rome, and there some of the designs were prepared. They are well known by engravings, as well as those for the Massini villa, for the *Nibelungen-Lied*, and the *Gerusalemme Liberata* of Tasso. Cornelius also superintended the painting of the frescoes in the Berlin Museum, for which the cartoons had been prepared by Schinkel. It is also worthy of mention that the design for the baptismal shield presented by the King of Prussia to the Prince of Wales was made by Cornelius.

The works of Cornelius are on the largest scale, treat of the loftiest themes, and are designed with grandeur befitting their magnitude and elevated aim. Cornelius was one of those who considered that fresco was the most suitable material to carry out an artist's conceptions. The regeneration of German art which he effected especially entitled him to the gratitude of his nation, and the resolution to erect a fitting monument to the memory of the master was the first acknowledgment of such indebtedness. The funds, therefore, for its erection soon flowed in, among the more liberal subscribers being the King of Prussia, the ministry of the day, Düsseldorf and other art cities, especially Vienna. The fact of Cornelius having been born in Düsseldorf, and of a good deal of his activity having been devoted to his native town, and to the resuscitation of the art-school which had before been much neglected, contributed not a little to the success with which the undertaking was carried out. The municipality of Düsseldorf, the Düsseldorf Art-Union for Rhineland and Westphalia, as well as the club known as the "Malkasten," contributed most handsomely.

Amongst a very great number of competitors for the monument, Professor Adolf Donndorf, of Dresden, now at Stuttgart, carried off the palm. The work took some years to complete, so that only on the 24th of June of this year, the sixtieth anniversary of the Academy, could the statue be unveiled. The monument rises upon a granite base in pleasing rhythmical proportions. The statue is above life-size, and conveys happily the expression of the intellectual superiority and plain, forcible characteristics of the master. Donndorf has represented him in the ordinary every-day garb of civic life, giving us the man as he was. Although Cornelius was small of stature, the by no means easy task has been happily solved,—namely, while faithfully reproducing his personal appearance in posture and expression, of imparting to the statue an artistically rounded sympathetic impression. The classically-draped civic mantle, held up by the left hand, encloses in powerful lines a short stature, the right hand holding with an expressive movement the transmitter of great ideas, the crayon or pencil.

The base is adorned right and left by two seated figures, life-size, representing Poesy and Religion, which effectually surmount the harmoniously membered lower portion of the monument, and at the same time represent the two directions of art which the late master pursued. The beautiful face of Poesy looks up enthusiastically, while Religion, in a more sober and fitting form, characterises the no less important tendency of Cornelius. Only quite recently, with the erection of the Berlin National Gallery, has it been possible to worthily place the cartoons for the frescoes intended for the Campo Santo of Berlin (the greatest creation of the master after his call to Berlin in 1841). The sculptor has not omitted to record on tablets inserted in the wreath of laurel and oak, the names of the

THE CORNELIUS MONUMENT, DÜSSELDORF.—Professor Adolf Donndorf, Sculptor.




UNION BANK OF AUSTRALIA, MELBOURNE: PRINCIPAL FAÇADE.——Mr. Macvicar Anderson, Architect.

four cities in which Cornelius principally worked. The upper pedestal, of granite, bears on its front a bronze relief representing Painting resting pensively on a mystic sphinx, and holding in the left hand palette and brush. On the reverse side, also in relief, are Italia and Germania, the former, a figure fully developed, handing a wreath to the latter, personified by a young girlish form. Above these figures are medallions of Michelangelo and Albrecht Dürer.

The base, finally, shows us "Faust and Helena," combining romantic German thought with the spirit of classic times.

## THE UNION BANK OF AUSTRALIA: NEW PREMISES IN MELBOURNE.

The building of which we give an illustration is now in course of erection on an important site in Collins-street, with a frontage to that thoroughfare of 66 ft. and a depth of about 320 ft. This site was bought from the Crown in the early days of Melbourne for 16*l*., and was recently sold by the heirs of the original purchaser for no less a sum than 33,000*l*. It is now being entirely covered with the new banking-offices, the arrangements of which have been designed and are being carried out by the local architects of the bank, Messrs. Smith & Johnson, of Melbourne. The principal façade to Collins-street, which we illustrate, was designed by Mr. Macvicar Anderson, of London, who furnished complete working and detail drawings for its execution. The comparatively restricted frontage suggested the treatment of the recessed arcaded entrance, with the view of enlarging the apparent width of the façade. The material adopted for the lower story is Harcourt grey granite; for the upper portion, including the pavilion turrets, Tasmanian brown freestone; and for the columns and pilasters of the Corinthian order, polished red granite from Peterhead. The niches on the lower story are to be occupied by statues representing Great Britain and Australia, which, as well as the bas-relief subjects on the upper story, are being sculptured by Mr. Robert Jackson, of Maidavale.

## THE NEW BUILDING BYE-LAWS.

The following are the bye-laws made by the Metropolitan Board of Works under the provisions of the Metropolis Management and Building Acts Amendment Act, 1878, sect. 16:—

1.—*Foundations and Sites of Buildings.*

No house, building, or other erection, shall be erected upon any site or portion of any site which shall have been filled up or covered with any material impregnated or mixed with any fæcal, animal, or vegetable matter, or which shall have been filled up or covered with dust, or slop, or other refuse, or in or upon which any such matter or refuse shall have been deposited, unless and until such matter or refuse shall have been properly removed, by excavation or otherwise, from such site. Any holes caused by such excavation must, if not used for a basement or cellar, be filled in with hard brick or dry rubbish.

The site of every house or building shall be covered with a layer of good concrete, at least 6 in thick, and smoothed on the upper surface, unless the site thereof be gravel, sand, or natural virgin soil.

The foundations of the walls of every house or building shall be formed of a bed of good concrete, not less than 9 in. thick, and projecting at least 4 in. on each side of the lowest course of footings of such walls. If the site be upon a natural bed of gravel, concrete will not be required.

The concrete must be composed of clean gravel, broken hard brick, properly burnt ballast, or other hard material to be approved by the district surveyor, well mixed with fresh-burnt lime or cement in the proportions of one of lime to six, and one of cement to eight, of the other material.

The foregoing bye-law shall not apply to any building or other erection to be used as a stable or shed, provided that such erection shall not be used for any public entertainment or assembly of persons, or as a dwelling or sleeping place.

2.—*Description and Quality of the Substances of Walls.*

The external walls of every house, building, or other erection, shall, except in the case of concrete buildings, be constructed of good, hard, sound, well-burnt bricks, or of stone, and shall be put together with good mortar or good cement.

Similar bricks shall be used in the portions of party and cross walls below the surface or level of the ground, and above the roof, including the chimney-stacks. Cutters or malms may be used in arches over recesses and openings in, or faces of, external walls.

Stone used for the construction of walls must be free from vents, cracks, and sand-holes, and be laid on its natural bed.

The mortar to be used must be composed of fresh-burnt lime and clean sharp sand or grit, without earthy matter, in the proportions of one of lime to three of sand or grit.

The cement to be used must be Portland cement, or other cement of equal quality mixed with clean sharp sand or grit, in the proportions of one of cement to four of sand or grit.

Burnt ballast or broken brick may be substituted for sand or grit, provided such material be properly mixed with lime in a mortar-mill.

Every wall of a house or building shall have a damp course throughout its whole thickness, of asphalte, or other material impervious to moisture. The damp course in external walls shall be at a height of 1 ft. above the level of the ground directly abutting upon the external wall, and in the party or internal walls at a level of not less than 6 in. below that of the lowest floor.

The top of every party-wall and parapet-wall shall be finished with one course of hard, well-burnt bricks set on edge, in cement, or by a coping of any other waterproof and fire-resisting material, properly secured.

3.—*Duties of District Surveyors.*

It shall be the duty of each district surveyor, on receiving notice of the commencement of any house, building, or other erection, or of any alteration or addition, or on his becoming aware that any house, building, or other erection, or any alteration or addition, is being proceeded with, to see that the provisions of the foregoing bye-laws are duly observed (except in cases where the Board may have dispensed with the observance thereof), and to see that the terms and conditions upon which any dispensation may have been granted are complied with.

4.—*Fees to be paid to District Surveyors.*

The district surveyor shall, in respect of the erection of any house or other building, be entitled to receive the sum of 5*s*., the same to be taken and deemed to be a fee due to such district surveyor in respect of the duties imposed upon him by the Metropolis Management and Building Acts Amendment Act, 1878, and these bye-laws; such fee to be payable in the manner and at the time prescribed by section 51 of the Metropolitan Building Act, 1855. The district surveyor shall also, in every case where, in respect of any breach of these bye-laws or of the above Act of Parliament, an application shall be made by him to a Justice, and an order made thereon, be in like manner entitled to receive the sum of 10*s*., in addition to the before-mentioned fee of 5*s*.

5.—*Deposit of Plans and Sections.*

On notice being given to a district surveyor of the intended erection, re-erection, alteration of, or addition to a public building, or a building to which section 56 of the Metropolitan Building Act, 1855, applies, it shall be the duty of the person giving such notice to deposit plans and sections of such erection, re-erection, alteration, or addition, with the district surveyor. Such plans and sections shall be of sufficient detail to show the construction.

On notice being given to the district surveyor of the intended erection or alteration of or addition to any house, building, or other erection, other than a public building, the district surveyor may, if he think fit so to do, by notice in writing, require the person giving such notice to produce a plan or plans and sections of any such house, building, or other erection, or of the intended alterations or additions thereto, for his inspection.

6.—*Penalties.*

In case of any breach of any of the provisions contained in these bye-laws, the offender shall be liable for each offence to a penalty not exceeding 3*l*., and, in each case of a continuing offence, to a further penalty not exceeding 3*s*. for each day after notice thereof from the Board or the district surveyor.

In any case, if the Board think it expedient, they may dispense with the observance of any of the foregoing bye-laws, or any part thereof, upon such terms and conditions as they may think proper, and in case of the non-observance of any terms and conditions upon which the Board may have dispensed with the observance of any of the foregoing bye-laws, then such proceedings may be taken and such liabilities shall be incurred as if no such dispensation had been granted.

*Sealed by order,*
J. E. Wakefield, *Clerk to the Board.*
*Spring Gardens, October* 3, 1879.

"I confirm the oregoing bye-laws,
Rd. Assheton Cross,
*One of Her Majesty's Principal Secretaries of State.*
*Whitehall, October* 6, 1879."

## NEW COLLEGE, CHAPEL, OXFORD.

The work of restoration at this chapel is now near completion, and consists of an entirely new oak roof, richly moulded. There are seven bays, with two principals next the east and west walls. The spandrels are filled in with tracery, and life-size figures are carved at the end of each hammer-beam, with wings. There is also a moulded wall-plate, in which carved patterns are inserted the entire length. The principals spring from the old stone corbels. After being cleaned, they were found to be coloured with red, blue, and gold, and the original pattern has been retained. The wall-space between each principal on the north and south sides has been covered with moulded tracery springing from the stone corbels. The rafters are in keeping with the remainder of the work, and the whole is covered with oak boards in narrow widths, and on these are fitted, with the view of supporting the felting, stout deal boards to receive the lead. The stone pinnacles of the chapel, which were very much decayed, have been carefully pointed, none of the old stone having been removed. A few new finials have been placed where the old ones were quite gone, but as little as possible has been done to destroy the features of the old work. New oak roofs overlaid with lead are put on the two ante-chapels. Internally the whole of the old plaster has been removed, as it covered the stone dressings, which had been hacked for the purpose of forming a key to the plastering. The walls have been replastered, so as to show the stone dressings, and the windows, which have been thoroughly cleaned, are now seen to great advantage. The screen through which the choir is entered is of oak, of elaborate design, and stands upon eight marble bases; posts supporting the organ-gallery, with moulded ribs springing from each upright, and carved spandrels. The fine old oak doors which formerly formed part of the screen have been restored, and are now fixed in their original positions. It was discovered that the reredos was in a very bad state; as soon as the plaster was taken off the canopies, all the stone divisions were found to have been much damaged, just sufficient remaining to denote the original design. The sedilia and piscina have also been restored, together with the credence on the north side; these were found almost knocked to pieces, but they have been replaced as near as possible to what was considered the original design. It only remains now to fill the niches with figures to make this part of the work perfect and complete. The small lights in the tracery retain the original painted glass of 1386, and are adorned with curious figures. A carved and moulded stone recess has been designed and fixed on the north side under the easternmost windows to receive the "Wykham Crozier"; it is lined with oak, with door and glass panels. All the floor, which is of stone and marble, has been taken up and relaid. In removing the old wall framing was discovered a doorway in good preservation leading to the vestry or robing-room, and this, together with the room, has been restored and a new oak door placed thereto. The canopy work over the stalls is rich in tracery, and there is a carved oak cresting running the entire length. The ends of the stalls are very massive, the carved work comprising tracery and poppy-heads from very fine examples, figures at the elbows, &c. The figures at the east end represent the four evangelists, and those at the west end (north and south) the founders and the reigning monarch. The new organ-case is elaborately moulded and carved to correspond with the old work. The hot-water pipes have been re-arranged and a new boiler is fixed. The whole of the works have been carried out from the designs of the late Sir George Gilbert Scott. Mr. Shaw, of London, is the contractor for the roofs and general work, and Messrs. Farmer & Brindley executed the seating, canopy work, screen, reredos, sedilia, &c.; and Mr. Thompson, of Peterborough, the organ-case. The warming and gasfittings have been supplied by Messrs. Gill & Co., of Oxford, and the whole undertaking has been superintended by Mr. H. Roome, as clerk of the works. The entire cost will be about 25,000*l*. The robing-room adjoining the chapel is being restored to its original character by Messrs. Symm & Co., of Oxford, and the tesselated tiled flooring is being reinstated. The oak roof is also being restored.

## NEW THEATRES FOR GLASGOW.

Three new theatres are on the *tapis* in Glasgow. The one which calls for notice at the present time is that in course of construction in Sauchiehall-street, almost opposite to the Gaiety, which came into existence about six years ago. The new structure is called the Royalty theatre, and is being built by a company who have secured as manager Mr. E. L. Knapp, of the recently burned-down Theatre Royal, of Glasgow. The commemoration stone was, as we mentioned in our last, laid by Mr. J. L. Toole, the popular comedian, in presence of an audience which included representatives of all classes of the Glasgow community.

The first-floor of the new block of buildings is almost entirely devoted to the theatre, which is to be,—in length, 109 ft.; in breadth, 56 ft.; and from the pit floor to the apex in the ceiling, 44 ft. Ample stage accommodation has been arranged for; and the area will be laid out in the manner now generally observed by theatre architects. Behind the orchestra, which, by the way, will be hidden from public view, there will be seven rows of stalls; at the rear of these, eight other rows; and behind these again will be the pit, divided into a dozen benches. A horse-shoe balcony will be erected over the pit. This balcony will have a dress circle, an ordinary circle, and a promenade nearly all round. An amphitheatre and gallery will also form part of the auditorium, which will provide seats for nearly 2,000 persons. The building, which rises to four stories, will, when completed, have an ornate and, at the same time, substantial appearance. There is a perfect series of entrances and exits all round.

The architect of the theatre is Mr. James Thomson, St. Vincent-street; and the builder, Mr. John Devlin, Pollockshields. The internal arrangements of the theatre were designed by Mr. Matcham.

The two other theatre projects are the rebuilding of the Theatre Royal, burned down last January; and the reconstruction of the Gaiety, which has proved far too small for Mr. Bernard's requirements. Mr. Bernard has obtained plans, and a commencement is to be made with the building after the pantomime, which usually closes at the end of January.

## SANITARY CONGRESS AT CROYDON.

### EXHIBITION OF SANITARY APPLIANCES.

The Autumn Congress of the Sanitary Institute commenced on Tuesday afternoon in Croydon. After a luncheon in the Public Hall, Mr. Drummond, chairman of the Local Board, formally opened the extensive and interesting exhibition of sanitary appliances which has been brought together, partly in the covered portion of the Skating-rink in Park-lane, but chiefly in a large marquee adjoining the rink and the Central Croydon railway station. There are no fewer than 189 stands or stalls, containing upwards of 700 separate exhibits, some of which, however, have really nothing whatever to do with the avowed object of the exhibition. Of the somewhat heterogeneous collection of appliances connected with heating, lighting, ventilation, water supply, water-closet arrangements, sewage and refuse disposal, &c., here brought together, we can only say that it consists for the most part of inventions and appliances which have been in use for some time past with good results. Of absolute novelty there is little to be seen, but the exhibition, taken as a whole, strikingly exemplifies the increased amount of skill and enterprise which has been of late years brought to bear by our manufacturers with the view of helping to provide healthy homes for all classes of the community. It is but right to add that many of the contrivances exhibited contain improvements which have been devised or suggested by architects, engineers, and medical officers of health. We cannot specially notice more than a few of the exhibits.

Taking the stands in their numerical order, we note that at Stand 2 Messrs. Potter & Sons, of Oxford-street, exhibit Mr. H. Saxon Snell's patent ventilating hot-water open fire-grate, the "Thermhydric"; while next door, the well-known firm of Gillow & Co. (Stand 3) exhibit an enclosed lavatory. Messrs. William Woollams & Co. (Stand 18) exhibit some effectively-designed wall-papers coloured with pigments entirely free from arsenic. Two of the specimens have bright green grounds. Mr. Edward Howard, of Upper Baker-street, shows (Stand 19) the improved patent duplex lid and automatic flusher for water-closets, the patented invention of Mr. H. Saxon Snell. These closets are self-ventilating, and have, we understand, been largely used in various public and private buildings. At Stand 43, Messrs. G. Waller & Co., of Southwark, exhibit ventilators, penstocks, and other apparatus for sewers. The Concrete Apparatus Company (Stand 61) show Henley's patent revolving and self-fastening concrete apparatus, which possesses the great merit of simplicity. The same exhibitors show Henley's patent window frames, sashes, and fastenings. Stand 64 is occupied by Messrs. Dreyfus & Co., who exhibit heating apparatus. The Silicate Paint Company, Charlton, exhibit on Stand 73 an assortment of their well-known non-poisonous paints and colours, with specimens of work treated with them. At Stand 78, Mr. W. H. Lascelles exhibits one of his patent movable wooden huts, as provided for the War Department; and, at Stand 86, he shows several interesting specialities in concrete. Firstly, we may mention some red concrete slab paving and kerbing,—the latter protected against the abrasion of cart-wheels by a cast-iron angle-piece secured by bolts passing through the blocks. The paving and kerbing, which Mr. Lascelles says can be supplied much cheaper than York flags and granite kerbing, are about to be practically tried in St. Luke's parish. Mr. Lascelles also exhibits a concrete bath, made in one piece, perfectly impervious to water; and, among other things, a new concrete floor, which, while it is asserted to be perfectly fireproof, is, he states, cheaper than an ordinary timber floor. This floor has been devised, we understand, at the suggestion of Mr. Norman Shaw. The flooring surface consists of red slabs of concrete, 1½ in. thick, and measuring 3 ft. by 2 ft., or any other more convenient size. These slabs rest directly on concrete joists (which can be moulded or chamfered to any design) about 8 ft. long, having a scantling of 6 in. by 4 in. The joists (which are stiffened internally by strips of iron) rest upon cross beams consisting of rolled-iron joists or wrought-iron girders embedded in concrete. The joists and the undersides of the flooring-slabs are left exposed, lath and plaster being dispensed with entirely. A floor of this kind can be provided, according to Mr. Lascelles, at 1s. per foot super. At Stand 79, Messrs. Beard, Dent, & Hellyer exhibit water-closets, lavatories, traps, and other sanitary apparatus; and next door, Stand 80, Messrs. Clark, Hunt, & Co., exhibit "Abbotsford" stoves, a kitchener, &c. Stand 87 is occupied by Messrs. Henry Doulton & Co., who, in addition to a fine show of their now well-known art pottery in Doulton ware, exhibit a large variety of sanitary pottery and stoneware, together with water-closets, urinals, lavatories, baths, and water fittings of all descriptions. Their "Lambeth" improved "wash-out" closet, with patent regulating supply-valve, possesses some good points. Mr. George Jennings, of Stangate, is the holder of Stand 88, and exhibits a good representative collection of his baths, lavatories, water-closets, urinals, and sanitary fittings generally. At Stand 93, Messrs. John Finch & Co., of Buckingham-street, Strand, exhibit bath, lavatory, and water-closet fittings; and close by (Stand 99) Messrs. Henry Sharpe, Jones, & Co., of Poole, show a number of specimens of their "rock concrete" tubes for drainage and other purposes. At Stand No. 100, Messrs. Hamilton & Co. have one or two specialities in the way of prismoidal pavement and stall-board lights. Messrs. Edward Brooke & Sons, Huddersfield, exhibit (Stand 109) patent invert blocks, subsoil pipes, traps, &c. The Abyssinian tube-wells are shown by Messrs. Le Grand & Sutcliff on Stand 126. Messrs. Jones & Willis, of Birmingham (Stand 143) exhibit wrought metal gasfittings and the patent "Hesperus" lamp. Ventilating tubes and cowls, syphons, and foul-air extractors are shown by the Patent Tube Company (Stand 151); while at Stand 153 the Hygienic Stove and Grate Company, Birmingham, exhibit their patent hygienic ventilating stove. Stand 155 is occupied by Mr. D. T. Bostel with his Brighton "Excelsior" water-closet, and at the next stand Mr. H. Owen, of South Kensington, exhibits his patent double and single-trapped and ventilated water-closets. The Sanitary Appliance Company (Stand 160) exhibit Morrell's patent cinder-sifting ash-closets. Messrs. John Bolding & Sons have a good display of baths, water-closets, and lavatories (Stand 162). At Stand 164 Messrs. Keen & Son, of Croydon, exhibit a trapless water-closet fixed in connexion with an open soil-pipe, and a quantity of Gay's impenetrable paint (for which they are the local agents), as used by the Post-office authorities for the pillar letter-boxes. Messrs. Doulton & Watts (Stand 167) exhibit their patent Manganores carbon filter (Dr. Bernays's patent). Another well-known Lambeth firm, Messrs. James Stiff & Son (Stand 169), shows a number of ventilating bricks, chimney-cowls, Soper's "Hospital Drain Disinfector," Weaver's ventilating sewer-air trap, Dr. Bird's "Eureka" sewer-traps, and other sanitary appliances. Messrs. W. Ramsey & Co. (Limited) exhibit (Stand 170) closets, lavatories, &c.; and at the next stand (171) Messrs. J. Edmundson & Co. show Wigham's patent atmospheric gas machine, and their own patent pendulum electric house-bells. Messrs. Wilcock & Co., of Burmantofts, Leeds (Stand 175), make a good display of glazed bricks and faïence for structural purposes, together with some decorative terra-cotta work in panels, &c., and a large and useful assortment of stoneware drain-pipes and traps, among which we must mention their "Yorkshire double syphon ventilated sewer-trap," the invention of Dr. Copley Woodhead.

Visitors to the exhibition (which will remain open until the 8th of November) should not forget to visit Stand 113, where the Ladies' Sanitary Association have on sale their very useful sanitary publications.

In the evening, at the Public Hall, Dr. B. W. Richardson, F.R.S., president of the Congress, delivered his inaugural address, entitled "Salutland, an Ideal of a Healthy People." He sought to show that, under proper hygienic conditions, a man ought to live for one hundred years. That, he said, was the anatomical estimate of human life. After a reference to his former proposal* for the erection of an ideal city of health, Dr. Richardson proceeded to create "an ideal people that shall show a model longevity; a people that shall have an ordinary term of life of 100, and prospective term of 120 years." He sketched out his people of "Salutland" as a people dwelling in the fiftieth year of the twenty-first century of the Christian era in a point of the earth's surface lying to the extreme south of the region fancifully called New America. The land he pictured as having been peopled 100 years at the time he gives their history, and he sketches their lives. They have never engaged in war, they have no centre of Government, all their cities being equal, and they practise the cardinal virtues of the Christian religion in loving their neighbours as themselves. In regard to their social and domestic life, he puts it that "it is considered that a centre of life containing, in a limited space, more than 100,000 people, is a danger, is in truth, for all purposes of health, unmanageable. Death, they hold, is the shadow of birth, and if large communities be admitted in which people are herded together, the shadow may be calculated with as much accuracy as an eclipse. Five separate dwelling-houses to an acre of land, and five persons to a separate dwelling-house, is the densest population allowed. The houses, large and small, are all built, with varieties only of artistic design, on arches which raise them from the ground; the bedrooms are disconnected altogether from the living-rooms; gardens are all around, and gardens are on the roofs. In the midst of the towns the eye is struck with the cultivation of fruit-trees that prevails. The towns of Salutland might be called, as ancient Norwich once was called, the towns or cities of orchards. Throughout all the country the land is under cultivation of the most perfect kind for cereal produce and fruit and vegetables. Through this cultivation there are interspersed magnificent parks and glades, in which harmless animals of the most beautiful kind are free to wander. Every tameable animal is there, and all animals are objects of singular and lively interest. The rivers and lakes are filled with varied kinds of fish, and every sort of bird that can be collected, retained, and naturalised on the land is also to be seen. A man, woman, or child who for wanton pleasure should hunt down or torture one of the inferior creatures would be cast out of society, while the idea of having the dumb creature killed and hung up in open shops to bleed and be quartered and cooked for human beings to live on would be treated with as much disgust as we should now treat the practice of the owners of those African shambles for human remains which Professor Huxley, in one of his most charming books, has so faithfully recopied to illustrate the history of a past civilisation. Animals are, notwithstanding, still used by our model people. Their fleeces are used for clothing, their milk for food, and many of them are made to work. The elephant works with an intelligence and skill that is almost human, and with a power that is superhuman, so that he is one of the most useful and faithful, and best-beloved of all the lower animals in the land. He is the rival of the horse, which is also much cared for, and is bred in a state of great perfection for bearing the rider, to which duty he is mainly consigned. He is in much request; for all persons in Salutland, male and female, are consummate in the saddle; their country, which contains vast and fertile plains, divided by splendid roads, and their atmosphere, which, except during a short periodical rainy season, is mild and dry, being remarkably suitable for horse exercise. The roads leading from one part of the country to the other are maintained in the most perfect efficiency, smooth in all parts, and dry as our best asphalte of to-day. Transit along these highways on horseback and by velocipede has supplanted most other modes of personal conveyance. The lines of railway, once so general, have lapsed now into conveyance for heavy goods mainly. The cost of coal has rendered steam locomotive power very limited, while aërial locomotion has replaced steam-propelled carriages in a marked degree." In this land there would be no workhouses or gaols, and Dr. Richardson entered fully into the

* See *Builder* for 1875, pp. 923, 955.

fanciful day-by-day work, and described the people as in the keenest enjoyment of life. One reason of their acquired health would be that they had mastered the pestilential diseases. An epidemic from pollution of air, of water, of food, would be with them impossible. The hereditary tendencies to disease would be either lost altogether or so nearly eradicated as to be practically removed. Thus, with the fewest accidental exceptions, the men and women would attain the sacred age. Their death-rate would be normal and constant, at eight in the thousand per year, and death itself, painless, final sleep, would be hardly more than departure to rest when the day of work was done. He traced out at length the measures by which he believed this could be attained by a thoughtful and studious people, and gave suggestions with regard to the conversion of man to be a frugiverous or fruit-eating animal, urging that life was greatly shortened by the overwork thrown upon the stomach.

On Wednesday Dr. Alfred Carpenter, the President of Section I., Sanitary Science and Preventive Medicine, opened the proceedings of that department of the Congress by the delivery of an able address. The remainder of the day was devoted to the reading and discussion of papers. Professor de Chaumont, F.R.S., and Dr. Horace Swete, read papers treating of water analysis. Dr. Norman Kerr dealt with the subject of the prevention of mortality from alcohol. Papers were also submitted by Mr. T. Nichols, on "Infant Mortality"; by Mr. H. C. Burdett, on "Hospital Questions"; and by Dr. Strong, on "The Necessity of Pure Air in Living and Sleeping Rooms." In the evening a *conversazione* was given in the Public Hall.

On Thursday, Captain Douglas Galton delivered an opening address as President of Section II., Engineering and Sanitary Construction. The remainder of the day was appropriated by papers and discussions in the same section, and in the evening Professor Corfield lectured on "Sanitary Fallacies."

Friday was to be devoted to Section III., Meteorology and Geology, the Congress being brought to a close by a public dinner.

We shall return to the proceedings of the Congress.

## OLDHAM TOWN-HALL EXTENSION.

On the 15th inst. the extensive additions which have just been made to the Town-hall of Oldham were formally opened by the mayor.

The new building is situated in Greaves-street, at the rear of the old Town-hall, and connected therewith by a flight of steps leading from the present staircase and opening out into a spacious hall in the new structure. The Greaves-street elevation is entirely of stone, and is in the Classic style, with square columns and capitals of the Corinthian order. The main feature of the design consists, first, of a boldly-treated and massive basement, the upper mouldings of which indicate the level of the ground-floor. Above the basement the columns run through two stories, and carry the main architrave and cornice, which is surmounted by an open balustrade with solid piers at intervals. Near the centre of this elevation is the entrance for magistrates and advocates, which is recessed from the other part, over this are the windows which light the main hall, which extends back to Mill-street. A prominent feature in this elevation are the two ventilating turrets from the cells. Between the wall columns are the ground and first-floor windows, the former with square heads, the latter with circular arches.

Internally, the sub-basement is occupied by a large cellar and the necessary flues, &c., connected therewith. The basement is entirely devoted to police purposes. On the ground-floor there is an entrance from Greaves-street to the new building, which will be used principally by the magistrates and advocates attending the borough court. This floor is connected with the old town-hall by a corridor 8 ft. wide. This corridor opens into the large hall, 56 ft. by 20 ft. At one end is the staircase from Greaves-street before referred to, and which is shut off from the hall by a panelled screen. The grand staircase leading to the upper floors is at the other end of the hall. The body of the borough police-court is on this floor, and behind the same, up to Greaves-street, is the magistrates' retiring-room, 22 ft. by 19 ft. 6 in., with private lavatory accommodation, and magistrates' clerk's room, 13 ft. 6 in. by 13 ft. 6 in. On this floor there is also a dining-hall, 40 ft. by 27 ft., and private office for the chief constable, conveniently arranged with separate staircase to police department; also retiring-room for advocates attending the borough court, and a committee-room, 27 ft. by 16 ft. The first floor is also connected with the old part by a corridor, 8 ft. wide, approached by a wide flight of steps from the staircase in the old Town-hall. This corridor opens into the main hall, from which access is gained to the Council-chamber, upper part of police-court, committee-room, &c. The council-chamber is 47 ft. by 27 ft., behind which is the mayor's parlour, which is formed out of the old council-chamber. On this floor are the offices of the town clerk's department.

The grand staircase window, having the area of 180 superficial feet, is divided by two deep mullions, intersected by three horizontally arranged, again subdivided in such form that gives semblance of couplet windows with their respective fanlights. The window thus contains eighteen openings in all, and has been filled in with stained glass, the lower part containing six allegorical figures, intended to represent Art, Science, Industry, Commerce, Spinning, and Mechanism. Above these are shields bearing the arms of the principal manufacturing towns of Lancashire. Above the central divisional line of openings the scheme of subject matter is essentially historical in its connexion with the town and suburbs of Oldham. Arranged in chronological order are the figures of Hugh de Oldham, Bishop of Exeter, and founder of Manchester Grammar School; R. Langley, connected with the rebuilding of the parish church of Oldham, 1476; Chadderton, first master of Emmanuel College, Cambridge; J. Assheton, Esq., of Chadderton, founder of Grammar School in Oldham; J. Cudworth, Werneth Hall, Lord of the Manor; Sir W. Horton, High Sheriff, 1775. Surmounting these, and corresponding in number with the lower lights, are the heraldic emblazonment of each of these local celebrities, with the arms of the duchy of Lancaster as a central feature.

The heating and ventilating arrangements were entrusted to, and have been carried out by, Messrs. Haden & Son, of Manchester and Trowbridge, the warming being upon the hot water low-pressure principle.

The following is the list of contractors:—Foundations, &c.—Excavation and drainage, Mr. Harrison McDonald, Oldham; brickwork, Messrs. Wrigley Brothers, Oldham; stonework, Messrs. Squire Dunkerley, Son, & Co., Oldham; carpenter's work and ironwork, Messrs. Charles Schofield & Co., Oldham. Main buildings.—Whole contract, Mr. W. A. Peters, Rochdale, builder. Sub-contractors: Brickwork, Messrs. J. & O. Partington, Middleton Junction; stonework, Messrs. Squire Dunkerley, Son, & Co., Oldham; carpenter and joiner's work, Mr. A. W. Peters, Rochdale; slating, Mr. David Jackson, Oldham; plumbing and glazing, Messrs. Sharples, Buckley, & Co., Oldham; painting, Mr. W. Best, Rochdale; wrought-iron railing, gates, Mr. Joseph Reyner, Oldham; plastering, Mr. Nicholas Rigby, Rochdale; stone-carving, Mr. Bonehill, Manchester; plasterers' modelling, Mr. Bromley, Liverpool. Fittings and Fixtures.—Furniture to Borough Court council-chamber, mayor's parlour, magistrates' and town clerk's rooms, and other offices, &c., Mr. James Lamb, Manchester; fittings to police department, &c., Mr. W. A. Peters, Rochdale; lavatory and water-closet fittings, &c., Mr. John Kershaw, Heywood; grates, chimney-pieces, and tiled hearths, Messrs. Scott Bros. & Co., Oldham; carpets, painting, and decorating, Mr. James Lamb, Manchester; hinges, window fasteners, &c., Mr. John Petrie, Rochdale; stained glass windows, Messrs. R. B. Edmundson & Son, of Manchester; cooking ranges, &c., Messrs. Wilson & Son, Manchester; gasfittings, Messrs. Winfield & Co., Birmingham; tiles, pavements, Messrs. Minton, Hollins, & Co., Burslem; heating and warming apparatus, Messrs. Haden & Son, Trowbridge; strong-room doors, Messrs. Samuel Chatwood & Co. (Limited), Bolton.

The whole of the works have been carried out from the plans and under the superintendence of Mr. George Woodhouse, architect, Bolton, and Mr. Edward Potts, architect, Oldham, Mr. James Martin having acted as clerk of the works.

The cost of the whole of the alterations, including furnishing and decoration, has been about 24,000*l.*

## IRISH NOTES.

The O'Connell Monument for Dublin has been for several years the theme of public discontent. The lamented death of Mr. Foley and other causes have delayed its completion. Although thirty-two years have passed since O'Connell's death, neither pedestal nor statue has yet appeared upon the site in Sackville-street. Recently, Mr. Brock, the sculptor, met the Monument Committee by arrangement and reported progress. Mr. Brock stated that he had had the statue in hand twelve months, and hoped to complete it by the time he originally specified, *i.e.*, in two years hence. The circular relief was complete, and some of it cast in bronze; he had also nearly finished one of the sitting figures, and another was in hand, whilst the statue of O'Connell himself was well advanced. The late Mr. Foley had originally draped this figure in a cloak, but the folds were heavy, and the late sculptor had requested him (Mr. Brock) to take them off. Unfortunately, Mr. Foley died ere this could be done. The committee authorised Mr. Brock to make this alteration, and the discussion next turned upon the material to be used for the base. Irish granite was proposed, but it was pointed out that the Four Courts, built of that material 100 years ago, in its present condition showed how quickly that material became disintegrated. Further, the granite of the Grattan and Prince Consort monuments had "gone" the same way. The excellent standing powers of Irish limestone were then referred to, and the feeling was unanimous that limestone was superior to granite. It was remarked that in the old churchyards throughout the country granite invariably was found unable to resist the atmosphere, whilst the limestone was as good as the day it left the chisel. An inferior sort of limestone was obtained from the Skerries; the best, perhaps, was found at Tullamore. Holy Cross Abbey, in Tipperary, was built of limestone in 1100, and all the stones therein are as sharp as on the day they were quarried. The pure white limestone from the coast of Antrim was also referred to, as well as the beautiful geological specimens at the College of Science, Dublin. It was resolved to apply for tenders for the pedestal, the material specified being the best Irish limestone.

The Commercial Union Assurance Company are about to build extensive new premises at the corner of College-green and Grafton-street. Mr. T. N. Deane, of Dublin, is the architect, and Messrs. Wardrop & Sons are the contractors.

The want of a suitable bathing-place having long been severely felt in Dublin, it is now proposed to erect a bathing establishment at Clontarf, a suburb readily reached from Dublin by tram-car. Mr. Sloane, the engineer, has made plans for this, and a company has been formed. The scheme embraces a bath, elliptical on plan, the diameter being in the proportion of ·1500 to ·9500. There will be 13 ft. depth of water at the deepest places. The part devoted to men will contain 450,000 gallons, and the ladies' portion 151,000 gallons. It is proposed to concrete the whole, and, further, to use Mr. Lascelles's patent concrete slabs in the construction of all the dressing-rooms and offices.

Plans have been prepared by Messrs. O'Neill & Byrne, architects, of Dublin, for the new church of St. Agatha, to be erected in North William-street, at a cost of 8,000*l.*

In a recent number of the *Builder* (Aug. 23) Mr. Harry Hems quoted several amusing instances in which architects had been deceived by believing modern work to be old. A correspondent in the *Irish Builder*, the other day, tells an even odder story on the same topic. He says:—"In the ancient collegiate church of St. Mary, at Youghal, is a very fine pulpit, carved, and bearing considerable appearance of antiquity, but the man who made it was living a few years ago, and may, perhaps, be living still. He was working at some repair inside the pulpit when it so happened that, in 1860, a certain nobleman, looking at the interesting restorations made in the church by the Rev. Samuel Hayman, and observing to a friend, 'The head does not ache that designed that pulpit,' was considerably startled by the head in question appearing over the desk and saying, 'Why, then, my lord, my head does ache; and I would like a something to drink your lordship's health this morning,'—a request that, after a hearty laugh, was complied with."

Some fine new premises have been erected in

Henry-street, Dublin, from the designs of Mr. G. P. Beater, architect, of Lower Sackville-street. Mr. George F. Tyrrell, also of Dublin, being the builder.

New schools have been built at Malahide, just outside Dublin, from the designs of Mr. James Bell, architect. Mr. Nicholas Brady was the builder.

A new wing, to be known as the "Madeline," at the Adelaide Hospital, Peter-street, was opened last week by the Marquis of Abercorn. Messrs. J. & W. Beckett, South King-street, Dublin, were the contractors. The cost has been 14,000*l.*

Some interesting archæological finds have occurred at Donnybrook. Some workmen were excavating for foundations for proposed new buildings, and came across a large quantity of human skeletons in a perfect state; a two-edged sword, two daggers (all of early workmanship), and a number of copper coins, the dates and superscriptions upon which were entirely obliterated. Fully eight cartloads of bones have been removed for interment, and many still remain. In the Middle Ages the outside of Dublin was but too frequently the scene of many fierce conflicts.

Tenders have been invited for additions to Pallas, the seat of the Earl of Westmeath, in county Galway. Mr. G. C. Ashlin, of 41, Westmoreland-street, Dublin, is the architect for the works in question.

New baths and washhouses, at a cost of about 4,000*l.*, have been built in Peter's-hill, Belfast, and have just been opened by the mayor of that town.

New schools, from the plans of Mr. James Price, architect, are to be built at Greystones, co. Wicklow. The foundation-stone is laid. Mr. R. Ludlow is the builder. Mr. Price has also designed a new mansion for Major-General Dobbs, and this is now being erected at Greystones. Mr. G. F. Tyrrell is the builder. Near to it Mr. Tyrrell is also building another fine house, for Mr. W. Pidgeon, of Athlone. For this Mr. J. H. Bridgford is the architect.

At Drumree, co. Meath, a new glebe-house is being built, from the designs of Mr. J. F. Fuller, architect, of Dublin.

Under the superintendence of Mr. T. N. Deane, architect, the parish church at Roscrea, co. Tipperary, is being restored.

It is proposed to build sixteen blocks of first-class houses at Carrigmahon, a lovely site just outside Cork, situated between Monkstown and Glenbrook, and overlooking the river Lee. The plans have been prepared by Mr. Kearns Deane Roche, architect, of South-mall, Cork.

Plans have been submitted by Mr. W. Lewis, C.E., for the building of a new railway, on the narrow-gauge principle, between Dublin and Baltinglass, co. Wicklow. The distance will be thirty-nine miles, and the probable cost, 207,000*l.*

## MECHANICS' INSTITUTE, PUDSEY, NEAR LEEDS.

A short time ago, the committee of the above Institute invited architects to submit plans for a new building, and offered premiums for the best three designs. In response to this invitation, eighteen sets of plans were received, and after they had been duly considered, the first premium was awarded to Messrs. Hope & Jardine, architects, of Bradford, who were accordingly appointed to carry out their plans; and on Monday, October 6th, the foundation-stone of the new institute was laid by Mr. Wm. Dibb Scales, of Pudsey, in the presence of a large number of the inhabitants.

The new Institute, which is to be erected at the junction of Low Town-road and Wavergreen (two of the principal streets of the town), will be in the Gothic style of architecture, and one of its principal features will be a square tower having a slated spire rising to the height of 110 ft. This tower is placed at the corner of the two streets just mentioned, and in the base of it, a little above the street level, is the principal entrance, the doorway being deeply recessed, and having a moulded and arched head.

The building will contain on the basement floor a large room to be used for public tea parties, with kitchen, scullery, and stove-room adjoining, and also four class-rooms, lavatory, &c., all of ample size and well-lighted.

On the ground-floor are a news-room, 34 ft. by 24 ft.; a library, 24 ft. by 16 ft.; a conversation or smoke room, 29 ft. by 16 ft.; a committee-room, two class-rooms, a lavatory, and a secretary's room.

On the first floor, which is reached by a stone staircase, 5 ft. wide, are a large public hall, 56 ft. by 40 ft., with ante-rooms adjoining, a ladies' cloak-room, and a science lecture-theatre, capable of seating 120 persons.

The public hall, which is 32 ft. high, has a gallery round three sides, entered from the second-floor level, and will seat (including gallery) 650 persons.

In addition to the gallery of the public hall, there are on the second floor a large room, partly lighted from the roof, to be used for the art classes, and a class-room adjoining.

The different works have been let as follows:—Excavators' and masons' work, Mr. Jas. Smith, of Bradford; carpenters' and joiners', Messrs. A. & J. Briggs, of Bradford; plumbers' and glaziers', Mr. J. Wilcock, of Pudsey; plasterers', Mr. Wm. Tattersall, Bradford; slaters', Mr. Jas. Smithies, Bradford; painters', Mr. W. Sims, Pudsey.

The amount allowed to be spent, according to the instructions to competing architects, was 3,000*l.*, and the cost of the works as contracted for, including the library fittings and the seats for the public hall, is within 50*l.* of that amount.

## DERBY MECHANICS' INSTITUTION: AN EPOCH.

The present must be regarded as an important epoch in the history of the Derby Mechanics' Institution. When founded nearly half a century ago its promoters purchased a building and some little spare ground in the Wardwick for 1,500*l.* Situated in the centre of the town, the site of the Institute buildings has gradually increased in value, until now the trustees and managing committee find themselves possessed of a valuable property. The Wardwick is the principal thoroughfare leading from the Market-place and Post-office in the direction of a populous neighbourhood at the west of the town. Owing to the extreme narrowness of the street opposite the Institute buildings the corporation have purchased a strip of the land on which the building stands for the purpose of widening it. It may be remarked *en passant* that adjoining the Institute premises, and further from the town, stands the new Free Library and Museum, erected by Mr. M. T. Bass, M.P., at a cost of over 20,000*l.* and opened in June last. The building purchased in 1833 by the founders of the Mechanics' Institute, which has since been used for the library and news-room, is now in the course of being pulled down. Separating it from the Free Library stands the Lecture-hall, also the property of the Institute, used now solely for public concerts, dramatic performances, &c., which was erected by public subscription. Considerable public interest is manifested in the course which will be taken by the managing committee, in whose hands the future of the Institute may be said to lie. The sum of 7,250*l.* has already been received by the trustees from the Corporation for compulsory sale of the strip of land which will be thrown into the street. It is not too much to say that no little dissatisfaction has been felt for some years at the way the committee have managed the affairs entrusted to them, for although there are few persons living who contributed towards the funds for the establishment of the institution, yet it is felt to be a public concern, from which the present generation should derive considerable benefit. The committee intend to erect another building of some kind for the uses of the members; but not even the members themselves have any knowledge of its character,—whether all the money will be spent in bricks and mortar, or whether a portion of the funds in hand will be reserved for other purposes. Owing, perhaps, to a feeling of indifference on the part of the members, the committee, which is re-elected year after year without opposition, have the disposal of the money in their own hands. At the last quarterly meeting but one of the members, a resolution was brought forward by the managing committee which, if carried, would have given them power to view plans for a new building and decide on which to adopt without further consultation of the members. This, however, was lost by a fluke, and an amendment was carried instead, providing that the chosen plans should be approved of by a general meeting of the members before being definitively adopted. This amendment, even though more satisfactory than the resolution, was not, for obvious reasons, all that could be desired. Much better would it have been if a special committee had been appointed of gentlemen well acquainted with building matters rather than leaving it to a ponderous committee of thirty men who have no special knowledge which would fit them to recommend plans for adoption. However, the amendment was carried, but at the next quarterly meeting (held recently) the committee mustered in force, and managed to negative the amendment carried at the previous meeting, and carry the original proposition. Thus at present the committee have the matter all in their own hands, and will in due course build something to their taste, and perhaps what they consider most suited to the requirements of the members. But a proof may be given of the failure of the present managing committee (a majority of the members of which have been in power for years) to carry out the original design of the founders of the Institute, which design was certainly a worthy one. When the appeal for subscriptions in 1833 was made, the committee in power then said, "Our leading object is the more extended diffusion of useful knowledge among the working classes. The means contemplated for the accomplishment of this object depend upon the arrangement of classes for the separate and systematic instruction of the members in the various branches of the arts and sciences, without which the pursuits of the members will be desultory and unprofitable." This object the present committee make no attempt to carry out. Classes were duly established after 1833, but many years ago they fell into desuetude, and the sole benefit the members now receive is from the reading-room and library. As stated above, the new Free Library is only a few yards off, and it is felt that the committee might very well turn their attention to that which for so many years they have ignored, the institution and continuance of classes for "systematic instruction of the members in the various branches of the arts and sciences." For years past the Institute has been the quiet and comfortable resort of men who have passed the busy period of life, and who require some snug room in which they can peruse the news of the day. The institution has just secured a new lease of life. The present is, as stated in our opening words, an epoch in its existence. From this point it goes on in a noble work of offering to its members an opportunity of securing an education in various sciences, and in art, or it relapses into a luxurious rendezvous for a number of old fogeys to read ephemeral literature. Surely there is public spirit enough in Derby to put matters into the right groove.

## BERGER-ROAD SCHOOL, HOMERTON.

One of the most important (though not the largest) schools built by the Board was publicly opened by Sir Charles Reed, on Friday, the 10th inst., in the Berger-road, Homerton. It is situated at the junction of Shepherd's-lane, overlooking the works of Messrs. Berger, and consists of a handsome block of buildings in the Queen Anne style of architecture, having dressings in red brick and Portland stone, the ground-floor being "rusticated" in red brick, and the remainder faced in picked stocks. In each of the gables, both back and front, are panels of fruit and flowers in carved brick (executed by M'Culloch), and in the centre of the roof, which is covered with Broseley tiles,—the junction of the four principal chimney-stacks is treated in an effective manner. The building is in three stories, the infants being on the ground, boys on the first and girls on the second floors, with a covered play-ground in the roof. Each floor contains six lofty class-rooms (with babies' room in addition to the infants) together with ample cloak-rooms, lavatories, teachers' rooms, &c., the principal corridors being paved with French mosaic tiles. A special feature is the central hall, an apartment about 25 ft. high, lighted from the street by five circular-headed windows, and having a columnar arcade on the rear-side, with gallery over, giving easy access to the boys' and girls' departments. The ceiling is formed in panels by the girders supporting an upper play-ground carried by cast cantilever trusses, which, together with the columns, dado, &c., are all finished in Keene's cement. The school will accommodate 1,200 children, the boys and girls being taught by adult teachers on the German system, the infants only having pupil-teachers. In the rear are extensive play-

grounds, fitted with all the usual gymnastic appliances, and having the sanitary conveniences and schoolkeeper's house in convenient proximity. The school was erected by Mr. Grover, of Wilton Works, New North-road, from the designs of Mr. E. R. Robson, F.S.A., the architect of the Board, the clerk of the works being Mr. Ellson, and the cost of the building was 12,366*l*.

## CORPORATION-STREET SCHOOLS, NEWCASTLE-ON-TYNE.

From a very humble beginning these schools have attained an importance little contemplated by their promoters. A short time since Lord Hartington opened the new Science and Art Rooms, which complete the scheme for the present. Accommodation is now provided for upwards of 1,400 scholars, who are received as infants, and can, if they like, rise step by step till they can matriculate for the London University.

The Science and Art Rooms give accommodation for about 400 students, and consist of chemical laboratory for thirty-six students, with professor's and weighing room; chemical lecture-room; natural science class-rooms; modelling, painting, and antique rooms for art students; with various other class-rooms for general purposes. There is also provision made for classes to learn cooking. On the ground is a large gymnasium.

The works were carried out by Mr. Humphrey Atkinson, contractor, of Blaydon-on-Tyne, from the designs and under the superintendence of Messrs. Oliver & Leeson, architects, of Newcastle-on-Tyne.

## GLASGOW CHRISTIAN INSTITUTE.

The new Christian Institute at Glasgow, which was opened the other day with some ceremony, adds another to the many handsome buildings that adorn the commercial metropolis of Scotland. The work was commenced in January, 1878, and it is only now that it has received the finishing touches. Standing alone on a site in Bothwell-street, which rises with a gentle slope from some of the leading thoroughfares of the city, the building has a good effect. The front elevation is five stories in height, and the ground occupied is 96 ft. 6 in. by 100 ft. The style of architecture is Gothic; and the general appearance is enhanced by figure-carving. Over the main entrance in Bothwell-street a spire rises to a height of 126 ft. On the second story it is flanked with circular turrets, and the two end bays of the front project from the main line, and are finished with gables. On either side of the principal entrance, on the level of first-floor, there are full-sized figures of Knox and Tyndale, and over each of the first-floor windows figure-heads are carved, representing Cranmer, Wishart, Wycliffe, Luther, Calvin, Melancthon, and Zwingle. A broad band of diaper-work is placed under the second-floor windows, which, as on all the floors, are divided with moulded shafts and carved capitals, while circular and traceried windows are placed in the end gables.

The structure affords all the varied accommodation which such an institution demands. There are a large and a small hall, a library and reading-room, a gymnasium, 36 ft. by 27 ft.; numerous ante-rooms, including lavatories, &c., furnished and fitted up with all the latest improvements. The hall is designed for lectures and public meetings, and will accommodate close on 1,000 persons. It is behind the main building, has a circular timber roof, divided into panels, two rows of which are filled on each side with stained glass.

The site on which the building has been erected cost 14,000*l*., and the other expenditure, including furnishings, reaches nearly 20,000*l*. A sum of 28,000*l*. has been subscribed, and it is expected the debt will soon be cleared off. The scheme for the erection of the structure, which was arranged seven years ago, is the combined effort of the various Christian associations in Glasgow, and these bodies have been nobly assisted in their work by many leading men in the west of Scotland, including Mr. John Burns, of the Cunard Company, and Dr. James A. Campbell. Mr. John McLeod is the architect.

**Viollet-le-Duc.**—The *Gazette des Architectes et du Bâtiment*, Oct. 5th, contains, with several notices of the late M. Viollet-le-Duc, a complete list of his published works.

## DIMINUTION OF THE DEATH-RATE BY TOWN IMPROVEMENTS.

Mr. James Morrison, chairman of the Committee of Management of the Glasgow Improvement Trust, has just laid before the trustees some observations on the rate of mortality in that city, and on the results of the measures taken by the municipal authorities to reduce the same. Appended to his letter is a series of interesting tables and calculations, bringing out the comparative rate of decrease of the death-rate in the chief towns of Scotland and England. These tables have been extracted from the official returns of the Registrar-General, and he points out that they prove that solid progress has been made in Glasgow and other large cities during the last six years, as contrasted with the six years preceding. "The general efforts to which the City of Glasgow Improvement Act gave such a powerful impetus to grapple with a high death-rate in large centres of population, through greater attention to sanitary measures, is marked in each in almost the exact proportion of the energy and extent of the efforts made, the most successful of these communities being, as a rule, those which have taken advantage of Local Improvement Acts or the Artisans' Dwellings Act. It is fair to state that some of the towns are in process of carrying out changes that should reduce (by ordinary human calculation) their future returns." The first table gives the comparative death-rates in the eight principal Scottish towns, and also in the eight chief centres of population in England, during the periods 1867-72 and 1873-8, and the results brought out are as follow:—

| | Average Death-rate per 1,000. | | Reduction. | Increase. | Per-centage of Improvement. |
|---|---|---|---|---|---|
| | 1867-72. | 1873-8. | | | |
| Glasgow..... | 30·6 | 27·3 | 3·3 | — | 10·7 |
| Edinburgh... | 25·8 | 22·1 | 3·7 | — | 14·3 |
| Dundee ..... | 27·7 | 24·4 | 3·3 | — | 11·9 |
| Aberdeen ... | 22·5 | 21·7 | 0·8 | — | 3·5 |
| Greenock ... | 28·9 | 26·2 | 2·7 | — | 9·3 |
| Paisley ..... | 28·5 | 29·3 | — | 0·8 | — |
| Leith ..... | 24·6 | 22·2 | 2·4 | — | 9·7 |
| Perth ..... | 23·1 | 24·3 | — | 1·2 | — |
| London ..... | 23·6 | 22·7 | 0·9 | — | 3·8 |
| Birmingham | 24·2 | 24·0 | — | 0·7 | — |
| Liverpool ... | 31·1 | 28·1 | 3·0 | — | 9·6 |
| Manchester.. | 31·2 | 29·1 | 2·1 | — | 6·7 |
| Salford ..... | 27·9 | 29·0 | — | 1·1 | — |
| Bradford ... | 26·1 | 24·5 | 1·6 | — | 6·1 |
| Leeds..... | 27·3 | 25·6 | 1·7 | — | 6·2 |
| Sheffield..... | 27·1 | 24·7 | 2·4 | — | 8·8 |

Another table has been drawn up, showing the "lesser number of deaths calculated in proportion to population in the sixteen large towns in England and Scotland," on a comparison between the two periods of six years each. The results are, in Edinburgh, 4,764 fewer deaths; Dundee, 2,718; Glasgow, 10,590; Leith, 750; Liverpool, 9,336; Greenock, 1,116; Sheffield, 3,900; Manchester, 4,500; Leeds, 2,940; Bradford, 1,638; London, 18,720; and Aberdeen, 456,—in all, a total of 61,428 less deaths in six years. In Birmingham, Salford, Paisley, and Perth, where the death-rate increased, the balance is, of course, the other way.

## COMPETITIONS.

*Southport Convalescent Hospital.*—The Board of Governors of the Cotton Districts Convalescent fund have awarded the first premium of 100*l*. to the authors of "Santé,"—Messrs. H. J. Paull and A. A. Bonella, of 9, Montague-street, Russell-square, London; and the second premium of 50*l*. to the authors of "Experience,"—Messrs. Oliver & Leeson, of Newcastle-upon-Tyne. Mr. Alfred Waterhouse examined and reported upon the twenty-three designs submitted in competition, and the Board awarded accordingly. The building will cost about 25,000*l*.

*St. Mary's Church, Woolwich.*—This was a private competition. The competitors were Messrs. J. W. Walter, Woolwich; T. N. Laslett, Woolwich; E. F. C. Clarke, London; Jas. Brooks, London. The church is to seat 1,000 persons, and to cost 12,000*l*. The design by Mr. Brooks has been accepted, but part of the design (towers, &c.) is to be omitted.

## SKETCHES ABOUT ALGIERS.

Mr. Fredk. Inderwick, Q.C., gives more notes of a vacation ramble in and about Algiers, an extract from which may interest some of our readers. When an idler goes abroad for his annual outing he still idles; but the heavily-worked barrister or architect, when out for his well-earned holiday, still finds some sort of work necessary to make the leisure really enjoyable;—

*The Road to Miliana.*—During our enforced sojourn at Boughari the hot, we went a few miles to visit Boghar the cold, a large fortress, in the centre of which Abd-el-Kadir's observatory, a little square watch-tower, still remains in the hands of his enemies. But as it rained hard during the whole of our visit to Boghar, and the coolness of the air after the heat of the plain was too great to render much of it agreeable, its attractions were, I fear, lost upon us. Far otherwise, however, the native village above the inn at Boughari, with its teeming population, its hundreds of shops, its baths, and its *cafés*, its veiled and its unveiled women, its slaving negroes, its jolly negresses, and its entire absence of anything French or European. At length, however, our driver's fever being subdued, one of the horses having recovered, and the other being replaced by a good strong bay which we bought in the market for 105 francs, and a further journey towards the interior being impracticable, we bade adieu to the village of Boughari, and made our way towards Miliana.

*A Beautiful City.*—A city planted on a hill, in a garden of citron and wild olives, perfumed with groves of orange, fed with a hundred cool and limpid streams, and luxuriant with the fig and the grape, its clean-kept streets perfect in the shade of the overhanging trees, whose roots are moistened by the rippling waters, and in whose branches innumerable birds are singing; surmounted by the loftiest of the Atlas range, and itself overhanging the burning and expansive plain of the Chetif; surrounded by mighty forests, where the perfumed and gigantic cedars are a home for the hyena, the panther, and the lion; enlivened by the ever-changing population, who bask in the sunny quietude of its terraces, or go their way in peace under the grateful shadow of its trees; with a climate of Europe amid a foliage of Africa; the sanatorium of the French army, the delight of the Arab heart, an oasis of quiet, of coolness, of luxuriance, and of beauty; such is Miliana, the loveliest of Algerian towns. In winter its winds may be cold, and its roads may be bleak, its streams may be swollen into rivers, and its rivers into floods, but let this sweet little city be seen in the time of its glory, in the time of the summer heat, and no praise is too great for its freshness, no eulogy too high for its beauty. On entering the gates of this old Roman city of Miliana, it presents the appearance of a charming country town. The birds sing in the trees; there are market-gardens filled with vegetables and marked out with tables of reeds, upon which the figs and grapes are drying in the sun; there is a club, a horticultural garden, rich in European plants, that grow as in our own country; and the temperature is fresh and cool: so cool, indeed, is it, that a friend of mine, who had been ever since his arrival stationed at Miliana, declared that Algiers was an imposition, for that he came from Paris to Africa expressly in search of heat, and had never yet been able to find anything warmer than the Champs Elysées in the month of June.

*Visit to an Arab Chief.*—During our stay at Miliana we received an invitation to visit Bouhalem-ben-Cherifa, a native chieftain of considerable military prowess, of great local importance, and a valuable ally of the French, owing to certain pecuniary arrangements in relation to the collection of taxes, which had long since been made between them. He lived with his family and his retainers some twenty miles across the plain of the Chetif, and as there was no beaten track, and the route was intricate after a certain distance, he sent two of his establishment to escort us on the way. The road lay at the foot of that portion of the Atlas range most frequented by the lion, the panther, and the wild boar, and the scene of many of the most thrilling exploits of Jules Gerard, Boenbonnel, and the celebrated lion-hunters of Algeria. It swarmed with game.

*An Arab Household.*—The Bashagar himself was at the moment absent on business at Algiers, but we were received, and the honours of the house were done, by his brother, an old weather-beaten warrior of some seventy summers, deco-

rated with the Cross of the Legion of Honour, dignified and majestic as all Arab chiefs, but who, if not a most consummate scoundrel, was grossly libelled by a most villanous countenance and a wall-eye. He met us at the door of the dwelling, attended by his kadi and all the members of his family. The cavaliers with us, two of whom were his nephews and sons of Bou-halem, advanced and were kissed by him on the forehead. We shook hands after the manner of the country, that is to say, we touched each others fingers and put them to our lips, and, sitting on the carpets spread for our reception, took a preliminary cup of coffee from the kadi and looked about. The house, which was of the true Moorish construction, with internal courtyards, marble halls, and fountains everywhere scattered about, stood at the end of a grove of vines trained over wooden laths, as in Italy, and surrounded by hundreds of orange and lemon trees, the boughs breaking down under the weight of the fruit. The interior of the dwelling-house, which had only one story above the basement, was profusely carved and decorated with gold and paint, and had numerous rooms, very low in pitch, filled with Turkey and Arab carpets, which communicated with each other in most eccentric and incomprehensible fashion. The stairs were like ladders, made of wood, and both steep and irregular. The principal courtyard, round which the reception-rooms and those of the women were placed, was occupied in the centre by a large marble fountain, while everywhere around was seen a metal hand, being alike a symbol of the house of Bou-halem and an emblem of destiny intimating to the pious Mussulman to beware of his doings as the hand of fate is continually impending over him.

## VALUE OF PROPERTY IN LIVERPOOL.

An assessor and jury were occupied for two days last week, at St. George's Hall, Liverpool, in considering the value of certain land and premises in Key-street, Liverpool (the property of the executors of the late James Hodgson), required by the Lancashire and Yorkshire Railway Company, in connexion with improvements and the extension of Tithebarn-street Station. The area is 1,098 square yards, and the following were the valuations made by gentlemen on behalf of the railway company:—Mr. Shelmerdine, 10,640*l.*; Mr. J. A. Picton, 10,863*l.*; Mr. W. H. Picton, 10,866*l.*; Mr. W. H. Weightman, 10,867*l.*; and Mr. Elias Dorning, of Manchester, 10,872*l.* The valuations for the owners were as follow:—Mr. Cornelius Sherlock, 19,973*l.*; Mr. Edmund Kirby, 20,250*l.*; and Mr. Wainwright, 21,212*l.* Mr. Kirby produced plans of a large block of offices, designed by him to be built on one of the sites twelve years ago. The jury ultimately assessed the value of the property at 18,637*l.* By the award of the jury the claimants have also the power of disposing of the two spirit licences attached to the property, worth upwards of 1,500*l.*

## SCOTCH FIR.

At the twenty-sixth annual meeting of the Scottish Arboricultural Society, held on the 7th inst. in Edinburgh, a paper was read from Mr. M'Laren, Hopetoun, with reference to the deterioration which, the writer alleged, has taken place in the quality of Scotch fir during late years. Mr. M'Laren gave it as his opinion that the true native Scotch fir was not degenerating in the least, but that its counterfeits were on the increase was, he thought, unquestionable, and the tendency would still be more and more in that direction, thereby depriving the real Scotch tree of its character and worth. When they found vast native forests being cut down, and so many varieties of the fir in the market, it was easy to see how the home-grown seed would get mixed up with the foreign, making it difficult to distinguish the spurious plants from the real in the nurseries, and if discussion led to the characteristics of the different varieties being more easily distinguished, a great point would have been gained.

Mr. M'Corquodale, Scone, said that it might be asked how it was that plants reared from the true native Highland pine seed showed indication of constitutional degeneracy before they arrived at fifty years of age, when planted in the south of Scotland and in England, whereas one would imagine that such a change should rather prove favourable for preventing degeneracy. It was, however, a well-known fact that the Scotch pine did not thrive in the south. His own conviction on the whole matter was that it was the subsoil and the climate that produced the excellency of the Scotch pine timber, and his firm belief was that the tree was not degenerating. There were characteristics in the Highland subsoil that were necessary for the production of that rich resinous timber that were not to be found in the subsoils in the south of Scotland, except occasionally in muirish subsoils.

Mr. M'Gregor, Dunkeld, said that his experience led him to agree with Mr. M'Corquodale. The soil, no doubt, had a great effect on the trees, for in plantations there were often clumps which fell off, while in the rest of the forest the timber grew up with all the characteristics of Scotch pine. He further gave it as his opinion that Scotch fir was hardly fit for use for house-building purposes till it was between eighty and a hundred years old.

Mr. France thought there was no degeneracy in Scotch fir, and that objection to use of this timber often arose from the wood being cut down in an immature state.

## ST. JAMES'S THEATRE.

The fulsome, ignorant * rubbish which some of the newspapers published at the re-opening of this theatre has done much harm, because all intelligent visitors who go there, instead of admiring what is really a well-upholstered, bright, and comfortable auditorium, experience a feeling of disappointment. Having seen it actually asserted in respectable newspapers that so magnificent a temple to the drama had never before been erected, they find with surprise, on entering, the wretched old *rococo* ceiling, and the original fronts of the upper boxes and amphitheatre retained, while the new front to the enlarged dress-circle is entirely different in style. The same must be said of the handsome proscenium, the most artistic part of the alterations; and the difference distresses the cultivated eye. One of the new arrangements is positively dangerous, and should receive further consideration immediately: we allude to the approach to the upper boxes, a narrow steep staircase from the street, where a loose stair-rod or a false step would inevitably produce a catastrophe. What would occur in the event of a panic and sudden rush of a number of persons down these stairs, the treads of which are not so wide as those of the commonest dwelling-house, can scarcely be contemplated with equanimity. As to the *foyer*, with pictures, of which much has been said, and which, in plain English, simply means that access is given from the vestibule to a picture-dealer's gallery where a clerk attends with a list of prices to do business, we should scarcely be disposed to recommend an imitation elsewhere. It only leads to a number of persons moving out of their seats between the acts, to the great annoyance of the remainder who are contented to sit still. We have no pleasure in making these remarks, and have nothing but the heartiest good wishes for the success of Messrs. Hare & Kendal's undertaking. We would rather have pointed only to the handsomely-furnished vestibule and the comfort of the majority of the seats within; but when such preposterous claims are made by unwise friends, it is necessary that some one should speak out to prevent other managers from supposing that such statements are universally accepted.

"The Queen's Shilling," with which the house opened, is very entertaining, and deserves, and will doubtless command, a long succession of audiences. Mr. and Mrs. Kendal and Mr. Hare are seen at their best, and all know how good that is. The *mise en scène* is good, and the minor parts are very well played.

**The Alexandra Estate, Muswell Hill.**—This picturesque freehold estate, comprising some 270 acres, is for sale. The property stretches from the Wood-green station, on the Great Northern Railway on the one side, to the pretty district of Muswell-hill on the other, and has been laid out for building purposes, the roads and the sewers and surface drains having been constructed. Mr. E. E. Croucher, of Southampton-buildings, will give particulars.

* *E. g.*, one important morning paper describes the exterior of the theatre as being in the Romanesque style!

## THE ALEXANDRA THEATRE, LIVERPOOL.

The Royal Alexandra Theatre, Liverpool, was re-opened on Monday evening last, after being enlarged by two-thirds of its former dimensions. The floor of the theatre has been lowered 8 ft., and some portion of the roof raised 11 ft. The height of the ceiling from orchestra to floor is 51 ft.; from cellar to mezzanine, 9 ft. 6 in.; from mezzanine to stage, 7 ft. 6 in.; from stage to flyrail, 42 ft. 3 in.; and from flyrail to grid-iron, 23 ft. 2 in. The pit, which was before considerably above the level of Lime-street, is now lowered to about the level of the roadway. The lowering of the floor enables the space of the pit to be extended back under the dress-circle, the former pit-bar and offices being removed for that purpose. In addition to this the pit is also extended under the dress-circle at the side, so as to embrace a great deal of the space which was formerly used as a crush-room. Beyond this a new crush-room has been formed by the absorption of the small street or covered passage which formed the carriage-approach to the theatre. The approach for vehicles has now been extended into Coal-street. The enlargement of the pit as described will enable it to accommodate 800, instead of 300 people. The theatre in its new form will accommodate 2,500 persons.

Mr. John Brunton, the scenic artist, has painted a new act-drop, and a figure-subject to go over the proscenium to screen the space created by the deepening of the stage. The painted decorations and gilding have been carried out by Mr. E. Bell, of Lisson-grove, London. The contractors for the general building works have been Messrs. Jones & Sons, Liverpool; for the ceiling and box fronts and other plaster work, Messrs. Jackson & Sons, London; for the new stage and machinery, Mr. Mears, Liverpool; and for the seating and upholstery work, Messrs. Urquhart & Adamson, Liverpool. The whole of the works have been carried out under the direction of Mr. C. J. Phipps, F.S.A.; Mr. Wm. Browne having acted as clerk of the works.

## THE ELECTRIC LIGHT IN THE BRITISH MUSEUM.

On Monday evening members of the Press were invited to meet the authorities of the British Museum to witness Siemens Brothers' Dynamo-Electric Light Apparatus in action in the Reading-room of that institution. This apparatus produces an electric current by causing an armature or cylinder of insulated copper wire to revolve near the poles of an electro-magnet. The current so induced in the coils of the armature is made to traverse also the coils of the electro-magnet, so that its magnetic intensity is increased. In this way the current and magnetism go on mutually reinforcing each other until a very strong current is accumulated. Thus, in the case of the dynamo-electric machine, there is no weakening of magnets in the course of time, and the light can therefore always be reproduced of the same intensity as when the apparatus is first erected. The important step from the magneto-electric to the dynamo-electric machine is due to Dr. Siemens and Sir Charles Wheatstone, and the value of this and other recent improvements is that the cost of production is much less and the volume of light is vastly increased with less driving power than by any other apparatus yet introduced. The dynamo-electric machine when connected with an electric lamp or regulator, and caused to revolve at its proper speed, gives a clear, powerful, and, it is said, very economical light, which compares favourably, as regards expense, with candles, oil, and gas of equivalent power, and is becoming every week more extensively used for the lighting of factories, building-yards, foundries, &c., or in fact wherever gas was formerly applied.

For two weeks the experiment of lighting the British Museum with this electric light has been tried. Many alterations have been made in the position of the lamps with the view of obtaining the best result. We have not space at this moment to go further into the matter beyond saying that the vast apartment was lighted in all parts most efficiently for all purposes. There was some flickering and irregularity of light, as we have seen elsewhere on similar occasions; but these defects were said to be remediable. It is not proposed at present to open the room

at night; but when the light is perfected and under control, it will be used on foggy days, and to lengthen the daytime for reading by an hour or so in the winter.

## SURVEYORSHIP ITEMS.

*Liverpool.*—It is stated by the local *Post* that the Health Committee have issued a draft report on the rearrangement of the borough engineer's staff, which states that the organisation and efficiency of the staff in all departments, except the sewerage department, are generally satisfactory. This department is to be reconstructed. As to the position of the deputy-borough engineer, the committee, having regard to Mr. Davies's service of upwards of forty years, intend to relieve him from the more active and responsible duties of the office, retaining him on the staff of the Corporation at 400*l.* per annum, being two-thirds of his present salary, with the understanding that he affords to the Health Committee from time to time, when called upon, any information or assistance they may require. The duties hitherto performed by Mr. Davies will be divided amongst the several departments. The committee have placed in the position of superintendent of the sewerage department, Mr. John Thomas Wood, at present assistant to the chief road surveyor, his salary to be 200*l.* per annum; and have appointed Mr. Oliver Stainton Pilkington to assist in the sewerage and road surveyor's departments at a salary of 100*l.* per annum. Five district sewerage inspectors are to be employed, whose salaries are to be at the rate of 130*l.* per annum each.

## CASES UNDER THE BUILDING ACT.

THE DISTRICT SURVEYOR FOR EAST HACKNEY (NORTH) *v.* PREEDY.

In this case, at the Worship-street Police-court, before Mr. Hosack, the defendant had erected a shop at the corner of Pratt's-road and Blurton road, and in advance of the line of fronts in Blurton-road, and another shop adjoining, the ground-floor of which was entered from Blurton-road and the basement from Pratt's-road, and the District Surveyor contended that they were both contrary to sec. 26, rule 5, of the Metropolitan Building Act, 1855. The magistrate had visited the premises, and decided that the corner shop was situate in Pratt's-road, and it was not necessary that it should conform to the line of fronts in Blurton-road. The adjoining shop he considered situated in Blurton-road, and granted an order under the section named in respect of it.

In another case, a dwelling at the corner of Elderfield and Blurton roads was decided to be situated in Elderfield-road, and not subject to the line of fronts in Blurton-road, although entered from the latter.

## PROVINCIAL NEWS.

*Smethwick.*—The new public buildings at Smethwick, commenced in the early part of the present year, are now rapidly approaching completion. They consist of library, gas-offices, and Petty Sessions Court, and adjoin the Public Hall erected a few years ago. The style of the building is Gothic, with some modifications, which render it more in accordance with the old buildings. The material used in the exterior of the building is red brick, the front elevation being freely treated with Bath stone, richly carved by Messrs. Naylor Brothers, Aston. Over the gas-offices is that portion of the building set apart for use as a Petty Sessions Court. There is a separate entrance to the library and reading-room, which is 52 ft. by 26 ft., with a librarian's room, 17 ft. by 14 ft., the woodwork being stained and varnished. In connexion with the library there is a store-room, which extends under the ground-floor of the whole block of buildings. The estimated cost of the buildings is 4,500*l.* They are being erected by Messrs. Harley & Son, contractors, Smethwick, under the supervision of Mr. Yeoville Thomason, architect, Birmingham.

*Walton.*—The Local Board for Walton, near Liverpool, having applied to the Local Government Board for sanction to borrow 2,000*l.* for works of sewerage in their district, Captain Robert C. T. Hildyard held an inquiry on the 7th inst., by direction of the Local Government Board, at the Public Offices, Walton, in reference to the application. Mr. Edwin Smith, clerk to the Walton Board, and Mr. G. W. Goodison, engineer, attended. No ratepayers appeared to oppose the scheme.

*Birkenhead.*—Mr. Thomas Brassey, M.P., on the 9th inst. distributed the prizes to the successful students of the Birkenhead School of Art. The report of the head-master (Mr. J. Bentley) stated that the numbers attending the various classes had been affected by the prevailing depression in trade more than in any previous year. The total number of students attending all classes showed a decrease of forty-five from last year. The evening classes had been attended by 156, and the morning classes by 64 students, total 220; showing a decrease of 31 in the night classes, and 14 in the day classes. The annual Government examinations, conducted by means of papers, were held on the 1st and 2nd of May, when 129 candidates were examined in one or more of the four subjects comprised in the second grade, viz.:—Freehand drawing, model drawing, practical geometry, and linear perspective. 217 papers were worked, of which 80 only were successfully passed by 56 candidates; of these 24 received the mark "excellent," and were awarded Government prizes, and 32 the mark "good" obtain certificates of proficiency. The number of full certificates gained this year,—that is, students who have passed the four subjects in one or more years, is 13. In the advanced local art examinations, for which students of the school alone are eligible, was attained a good average of success. 9 were examined, and 5 were successful, viz.:—1 in architecture, 2 in perspective,—1 obtaining a Queen's prize, and 2 in modelling in clay from the living model. In the advanced section, ten prizes were awarded, and ten works were selected by the examiners and retained for national competition, five of which were rewarded, obtaining two bronze medals and three Queen's prizes. In the elementary section, five prizes were awarded, making a total award of 17 third-grade prizes for the year, as against 12 in 1878 and 9 in 1877. The financial statement, read by Mr. H. H. Laird, was satisfactory, showing an increase in the subscriptions, and also notifying that the Laird Memorial Committee had contributed 240*l.* for the purpose of giving local prizes every year.

*Holyhead.*—The report of Dr. W. Ogle, who was sent to Holyhead by the Local Government Board to make ioquiry into the circumstances under which small-pox and diphtheria appeared and was prevalent in the neighbourhood a few months back, has just been published. In it he says that he was unable to detect signs of any serious attempt to deal with nuisances, however gross and palpable, and that it is, therefore, not surprising that the death-rate of Holyhead sub-district has been on an average 23·6 per 1,000 for the last seven years.

*Wolverhampton.*—A report on suggested public improvements in the Horse Fair at Wolverhampton has been issued by the Public Works Committee of the Corporation. It states that at a meeting of the committee on the 11th August the advisability of purchasing a block of buildings, containing 2,563 yards of land, on the north side of the Horse Fair, was considered, and it was suggested that the Mayor should purchase the property for a reasonable figure, and then offer it to the Corporation. The Mayor had since bought the property for 3,360*l.*, for which sum he was willing to re-dispose of it to the Corporation. The committee recommended the Corporation to accept the offer, which was considered a liberal one. By purchasing the property and other adjacent properties, the Corporation would be in a position to block up the street known as the Horse Fair, thereby acquiring about 1,200 yards of building land; and the property in the possession of the Corporation in North-street might then be laid out in a most advantageous manner by making a street in a direct line from North-street to Canal-street, with a branch to St. Peter's-walk, giving good frontages and ample back land for buildings.

*Dudley.*—At a meeting of the Dudley Town Council, on the 7th inst., the report of the Sewerage Committee recommended the acceptance of a tender of 479*l.* 17*s.* from Messrs. Pontifex & Wood, of London, for sluice-cocks, air-valves, boxes, and other castings; and also a tender from the same firm amounting to 1,590*l.*, for laying down and jointing the cast-iron pipes and fittings for the general sewerage of the borough. The Mayor, in moving the adoption of the report, referred to the proposed appointment of a clerk of the works and to the agreement made with Mr. Marten, engineer, who would receive 4 per cent. upon the outlay, 40,000*l.*, and his commission would be limited to this amount, so that if the cost should exceed the sum estimated no further commission would be paid. Alderman George Bagott called attention to the cost which might be incurred by owners of property in connecting their drains. As there were 10,051 houses in the borough the cost would be enormous, and Mr. Marten might receive, in addition to his commission, thousands of pounds if the outlay should be, as he understood, something like 3*l.* a house. Alderman Smith stated that in regard to the engineer charging commission upon connecting houses with the main drain it was resolved that Mr. Marten should not be entitled to commission on any private connexion to the main sewers unless the Corporation should for any special purpose consider it necessary to appoint him to inspect these works, or unless a private owner himself should call upon him to decide any point which required his decision. Anything which the borough surveyor could do would not be at the cost of one farthing to owners of property.

*Worcester.*—At a meeting of the Worcester Town Council on the 7th inst., the City Chamberlain, in accordance with the strong recommendation of Mr. Clayton (of the firm of Clayton & Bell), proposed the acceptance of the tender of Mr. John Taylor, of Birmingham, for decorating the interior of the Guildhall and the entablature in front, at the sum of 454*l.* 10*s.* The non-selection of a local decorator's tender by the Restoration Committee had caused some dissatisfaction in the city, and gave rise to considerable discussion in the Council, but a majority endorsed the action taken by the committee, and the tender was accepted. ——Mr. Wintle's tender for erecting stone walls on the east and west sides of the land purchased for the extension of the cemetery, at the sum of 573*l.* 4*s.* 6*d.*, was accepted.—— Additional land at the cemetery was ordered to be laid out, and application was directed to be made to the Lords of the Treasury for their sanction for a loan of 1,000*l.* for cemetery purposes.

## *RE* SCHOOL OF ART WOOD-CARVING.

Sir,—Now that your correspondent "Meter" condescends to explain his position so clearly, I shall have very little trouble in adducing *facts*, as arguments, in contravention of his sweeping *assertions*. "Meter" says, "No kind of fine art ever was developed by any other means than that of a demand." At this moment I have in my mind the revival of what may certainly rank as fine-art productions, I allude to the praiseworthy efforts of Messrs. Doulton & Co., in which I think it must be admitted that they have excited enough sympathy in the public mind to unloose the people's purse-strings; and I am glad to think that the enterprise which has initiated a new era in the history of English pottery manufacture has proved a financial success. I can see no reason why that which the enterprise of a firm can do in one branch of art may not be attained by a number of practical men in another branch, namely, fine-art carving in wood.

"Meter" characterises wood as "a thankless and intractable material." If your correspondent will take the trouble to pay a visit to South Kensington Museum, and look at some French and Italian carvings in wood of the human form there exhibited, he will probably feel bound to admit that, for richness of effect in the rendering of the flesh, and in finish, it would be difficult to equal them in any other material; and, as I have entered so far into detail, I may say that there is every reason in favour of wood holding its own in high art, because, whereas in wood the artist executes his own idea from first to last, it is not so with some more favourite materials which are less tractable. In marble the artist is obliged to intrust his clay model, first to the hands of the moulder, and then to the tender mercies of a kind of automatic machine, called a pointer.

In the case of bronze, after casting in the metal, it is again subjected to another process,—chasing; otherwise, smoothing down and destroying all fine surface detail.

Now, although, of course, I do not for one moment advocate the use of wood in place of the above-mentioned materials, I think I have

shown that wood, far from being an "intractable" material may be termed most tractable and useful for decorative purposes, retaining for centuries the last life-giving touches of the artist.

Of course, it remains to be proved with what measure of appreciation the work of Signor Bulletti and his pupils will be received by the public; but, with regard to the present demand for fine-art wood-carving, I may state that, to my certain knowledge, a leading firm of decorators has within the last month, found it necessary to send to Paris to get an order executed. Can anything prove more clearly the deficiencies of our own workmen? And why does "Meter" persistently attack a system which seeks to supply what is necessary, if we ever intend to employ Englishmen on art-works in England, instead of men of almost every other nation under the sun, as we have hitherto been obliged to do.

I think that in times like these, when our great political economists are crying out that we cannot continue to send so much money from the country without disastrous results to the working-classes at home, it is necessary that those who have the welfare of the nation at heart should not waste time in prematurely discussing the particular merits or demerits of this or that innovation, but should encourage anything that appears likely to act as an incentive to the higher development of any art or industry among our native British workmen.

ANSELMO.

## SIR COUTTS LINDSAY ON SCULPTURE.

SIR,—I cannot conceive how Sir Coutts Lindsay could have formed such an opinion as that which he has expressed in the following paragraph in your last issue:—

"The great familiarity of artists with these more varied materials has had an excellent consequence on the sculpture of our day. The old custom of leaving the ultimate embodiment of the idea to the mechanical labour of a workman is now discredited. A sculptor of twenty years ago, although supposed to work in marble, but seldom touched it himself. When his clay model was finished, his work was done; the marble statue was merely a copy of his clay, and not in any sense an original work. No doubt he made a pretence to do something with the chisel, but that was a myth of the profession. He had none of the workman's knowledge, nor of the handicraft of marble work. Now all this is different; the marble of our sculptors passes through their hands, and receives the impress of their genius."

As a sculptor I do not hesitate for a moment to refute the whole of the above paragraph as misleading the public regarding the sculptor's art. How can Sir Coutts reconcile "the old custom of leaving the ultimate embodiment of the idea to the mechanical labour of a workman" with "when his clay model was completed, his work was done; the marble statue was merely a copy of the clay"? When a sculptor place a model in the hands of a "workman" to copy, how can he entrust him with the "ultimate embodiment of the idea" when it has already been accomplished by himself in the model? Should any person do so, as Sir Coutts Lindsay asserts, he must therefore become an impostor and a quack, who defrauds the public by palming off works upon them which are not his own. Very few such men were in vogue over twenty years ago. Besides, it is not merely a mechanical process to copy a model correctly. Whatever mechaniem may be required, it is only to reduce the shapeless mass of marble to an approximate form of the model by what is usually termed pointing; and he who copies the model, whether it be the sculptor himself or his assistant, should be an artist in every sense of the word. By the sculptors of twenty years ago, does Sir Coutts mean Foley, Weeks, Gibson, McDowall, Behnes, &c., men whom I know to have been excellent carvers? Does he, then, think that it was a "myth of the profession" for the above well-known sculptors (and I could mention many more) to take up the chisel and put the last finishing touches to the marble? It is certainly a "myth of the profession" to think that the sculptors of to-day are more able to pass the marble through their own hands, and put the "impress of their genius" on it than the older ones. No living sculptor, of even moderate repute, can possibly dispense with assistance in the finish of his works in marble, and also in modelling.

Had Sir Coutts-Lindsay happened to inquire into the surreptitious mode by which some persons who falsely call themselves sculptors obtain patronage, and the way by which they get their work executed by the true artist, he would then have struck at the root of the greatest evil our art has been subject to for the last twenty years. There are at the present moment in London some half a dozen of these men thriving at the expense of other men's brains, and by the fraud thus played on the public they have a reputation almost equal to our best sculptors, while the artist at whose expense his fame has been made is left to perish in obscurity.

I see no reason why art should not have the same advantage as other learned professions by being under the immediate protection of the Legislature, to the exclusion of all impostors.

J. MILO GRIFFITH.

## SCHEME OF PROVINCIAL GEOGRAPHICAL MUSEUMS.

SIR,—These popular educational museums stand in exactly the same relation to the geographical ignorance (adult ignorance) of the many as the Royal Geographical Society of London stands to the geographical learning of the very few. Their important object is to instruct, familiarise, and to disseminate geographical knowledge to the people generally. No town in the United Kingdom, therefore (and especially no seaport town), having a population of 50,000, should be without such a popular educational museum, or spacious room, opened free to the public for their use and for reference, containing everything, in short, essential to the acquisition of geographical knowledge. Weekly popular geographical lectures should be given free, by amateur geographers, resident within the town. Provincial museums have a far greater importance than provincial geographical societies. The former widely embrace and directly enlighten the masses indiscriminately, while the latter are necessarily restricted to the few, and those composed of the middle class alone. In this sense the provincial geographical museum may be said to be a national institution, forming a portion of the great national education of the future!

AUGUSTUS J. HARVEY.

## ROARING WATER-PIPES.

SIR,—I live in Hanover-gardens, Kennington-park, and am awoke every morning between five and six o'clock (two hours before I wish to rise) by the noise of the water passing through the pipes to the cistern. I have applied to the Vauxhall and Southwark Company that supply this district, but to no effect. It seems beyond their comprehension. Perhaps you might give some information as to the cause of it. I think they have too much force at work, as the pipe burst a short time back, deluging the kitchen. It also seems necessary to open the roads pretty often. Let it be what it may, I am awfully annoyed by it. A CONSTANT READER.

*** Our present correspondent is not the only person who complains to us of the same annoyance. Will the water-companies take the matter into their consideration, and devise some means to avoid it? At any rate, the delivery might be made a little later.

## DAMP.

SIR,—Can any of your readers explain the reason of, and a remedy for, dampness which exhibits itself on some of the walls of my house, under the following circumstances?

The house was built over two years ago, and after the walls were plastered they were left to dry for two or three months. Fires were then kept up for a further period of three months, by which time the walls appeared thoroughly dry, and were then papered. During the following summer (1878) there was not a sign of dampness even at the wettest periods, but as the cold weather approached I found, after the gas had been lighted, and unless the door of the room was kept *wide* open, that on different parts of the walls (and about on a level with the gas jets) much dampness showed itself. This continued during the whole of the winter in spite of large fires, and disappeared again in the spring. There were no symptoms of dampness during the late wet summer season, but now that the weather has become colder I am troubled with this dampness as badly as ever. As soon as the gas is turned down, or the door opened *wide*, the walls become apparently dry again. My dining-room, where, perhaps, this dampness is most observable (and not entirely on the *outside* walls), is ventilated by a Boyle's patent close to the ceiling, and by two 3-in. pipes coming from outside and carried up inside the room to about 5 ft. from the floor. I have tried closing one or both of these ventilating pipes, but without effect on the walls. Builders and others whom I have consulted have been unable to explain the reason of this continued dampness. Of course the heat of the gas will tend to draw out moisture from the walls, but this is no explanation in my case. R. M.

*** The cause of the dampness in this case is obviously the condensation of the moisture resulting from the combustion of the gas. Proper ventilation of the burners should, we think, prevent it.

## STAINED GLASS.

*Hagley.*—One of the south windows in the chancel of the parish church has been filled with stained glass, by Messrs. Clayton & Bell, of London, depicting the Early Christians' surrender of their worldly goods, which they sold, and laid the price at the apostles' feet, as recorded towards the end of the fourth chapter of the Acts. Beneath are the following words:—"Neither said any of them that ought of the things which he possessed was his own." "To the glory of God and the loved memory of George William, fourth Baron Lyttelton. Born March 31, 1817. Died April 19, 1876."

*Clevedon.*—The large west window of Clevedon Church, Somerset, has recently been filled with stained glass. The subjects illustrated are, in the upper part, "The Transfiguration of Our Lord," and below, the subject of "The Last Supper." The window was designed and executed by Messrs. Heaton, Butler, & Bayne.

*Brighton.*—A stained-glass window has been recently erected in St. Anne's Church, Brighton. The subjects illustrated are "The Nativity," and "The Angels appearing to the Shepherds." The window was designed and executed by Messrs. Heaton, Butler, & Bayne.

*Portsea.* — Among the Munich windows erected by Messrs. Mayer & Co., we may mention one that has just been fixed in St. Mark's Church, Portsea. It is a single lancet, on the south side of the chancel, about 9 ft. high and 2 ft. wide, containing ornamental glass, with, in the centre panel, a carefully-executed head.

## LIGHTNING CONDUCTORS.

THE delegates nominated in 1878 to consider the possibility of formulating the existing knowledge on the subject of the protection of property from damage by electricity, and the advisability of preparing and issuing a general code of rules for the erection of lightning conductors, have held several meetings, and have already collected, firstly, from the manufacturers of lightning conductors; and, secondly, from the members of the Royal Institute of British Architects, a large amount of practical information. Anxious, however, that their report should be as trustworthy and as exhaustive as possible, they invite correspondence upon the following points:—

"Full details of accidents by lightning, stating especially whether the building struck had a conductor or not. If there was a conductor, state its dimensions, construction, mode of attachment to building, whether its top was pointed, distance of its upper terminal from the place struck, nature and extent of the connexion between the conductor and the earth, and whether the earth was dry or moist, whether the conductor was itself injured, and whether the conductor or the point struck was the most salient object in the vicinity. Information is also desired, either verbally or by sketches, as to the position of metal spouting and lead roofing relatively to the point struck, and to the conductor.

Details of the thickest piece of metal melted by a flash of lightning are much needed.

Unimpeachable evidence of the failure of conductors is much desired, as such failures would be extremely instructive."

Replies should be addressed to Mr. G. J. Symons, 30, Great George-street, Westminster.

**Proposed Free Library for Preston.**—The Preston Town Council has held a special meeting to consider the offer of the Harris trustees to grant 70,000*l.* for the erection and maintenance of a free library. Mr. Alderman Gilbertson, in moving that the offer be accepted, stated that the cost of the site might possibly be more than 25,000*l.*; its value, when cleared, would probably be about 17,000*l.*, upon which would be erected a building that would cost 50,000*l.*, and a further sum of 20,000*l.* would be voted for the foundation and endowment of a library. The cost of maintenance was computed at about 1,200*l.* a year, of which sum 960*l.* had already been provided for, so that there was 250*l.*, which would be about covered by an extra rate of 1d. in the pound. Alderman Hibbert seconded the motion, which was carried.

## NEW CLUBHOUSES.

*Leigh.*—The Right Hon. R. A. Cross, Home Secretary, recently opened the new building of the Leigh Conservative Club.

*Southport.*—The Southport Reform Club was formally opened by Sir W. Vernon Harcourt, M.P., on the 2nd inst. The new clubhouse, which has been erected by a limited liability company, is situated at the junction of Eastbank-street and Queen Anne-street. The building, which is Italian in style, is three stories in height, and has a frontage to Eastbank-street of 40 ft., and to Queen Anne-street of 90 ft. The two fronts are faced with pressed bricks, relieved with polished and carved Longridge stone dressed and ornamental bricks. The Eastbank-street front is surmounted by a massive stone cornice and parapet at a height of 40 ft. from the ground, and the roof of this portion of the building is finished with ornamental iron cresting. Upon the ground floor provision is made for two shops, right and left of the main entrance-hall, and also six spacious rooms, which are let as offices; underneath these are store-cellars. The entrance-hall is 9 ft. wide, and the upper rooms are approached by a staircase to the right of the hall, which occupies a space 24 ft. by 20 ft., which is lighted in the day-time by a large lantern-light in the roof. On the first-floor is a billiard-room, 38 ft. by 24 ft.; on this floor are also a smoke-room, news-room, 26 ft. by 20 ft.; kitchen, and committee-room. On the upper floor is a billiard-room the same size as the one below, but more lofty, having a coved ceiling finished in panels, and surmounted by a lantern-light of cut and embossed plate-glass, at a height of 23 ft. from the floor. There are also on this floor a smoke-room, cloak-room, and an assembly-room, 40 ft. by 26 ft.; this room has also a lofty coved and panelled ceiling. The building, which has cost about 10,030*l.*, inclusive of the site, has been erected from designs furnished by Mr. T. H. Hodge, architect, Southport, under whose supervision the whole of the works have been carried out. The contractors were Messrs. Whitehead & Foster, of Southport.

## CHURCH-BUILDING NEWS.

*St. Teath.*—The parish church of St. Teath is now being restored, and it is intended to reopen it on the 6th prox. During the progress of the work, fragments of Norman masonry,—the remains of an earlier church,—have been discovered. These have been carefully preserved; and all other ancient work not in a state of absolute decay has been retained in the restoration. The endeavour in the restoration of the church has been to keep whatever is historically or architecturally interesting, whether of pre- or post-Reformation date. Gothic and Jacobean work has each a place, therefore, in this restored church. The aisles are fitted with benches, made up chiefly of the old oak, and in the chancel stalls and other furniture the ancient materials are also employed. Some of the walls were more than 1 ft. out of the perpendicular. These have been made sound and straight, and the portions of windows which were decayed have been taken out and replaced with new granite or polyphant stone. Little remains of the original stained glass of the windows, but such fragments as there are will be restored by Mr. Fouracre, of Plymouth, who is executing the new glazing. The new carving is by Mr. Hems, of Exeter. The contractor for the restoration is Mr. Wiffin, of Bradford, North Devon, who is carrying out the work under the direction of Mr. Hine, architect, Plymouth.

*Iddesleigh.*—The parish church of Iddesleigh, North Devon, has lately been re-opened, after restoration, at a cost of 1,500*l.*, under the direction of Mr. C. S. Adye, architect, Bradford-on-Avon. The whole of the old box-pews and the west gallery have been removed, and the body of the church seated with open benches of oak of rich design. The arcade has been brought back to the perpendicular, and the foundations carefully underpinned. The chancel arch and the corresponding arch in the aisle have been replaced, the south and east walls of the chancel have been rebuilt and are pierced with windows of a date corresponding with the rest of the church. The whole of the north windows and the south windows of the nave have new tracery worked in accordance with the remains of the old tracery. The whole of the roofs have been replaced in their original position, and boarded with oak boarding, all missing parts of the cornices and ribs having been replaced with new, worked to match the remains of the original portions. The whole of the work has been carried out by Messrs. Medland, Grant, & Eastmond, builders, Great Torrington, and the stone carving has been done by Mr. Harry Hems, of Exeter.

*Wolverhampton.*—The foundation-stone of the new school-church of St. Stephen, Springfields, Wolverhampton, has been laid. The new building will be 80 ft. long by 27 ft. wide, the side-wall 17 ft. high, and the total height to ceiling 25 ft. The chancel is formed by partitioning off a part of the building at the east end by a screen, which will by a simple arrangement of curtains or shutters, be effectually shut off from the schoolroom during the week. The steps up into this part will also be used as a gallery for the younger children in the school. An additional room, 17 ft. by 14 ft., will be placed at the south-west corner, to be used as a vestry on Sundays, with access to the entrance-lobby, and as a class-room on week-days, opening direct into the school-room. All the walls are faced externally and internally with patent pressed red bricks, relieved by moulded and white brick bands, no stone whatever being used except for the window-sills. The floors throughout are boarded, and the principal timbers of the roof will be wrought, stained, and varnished. The work is being carried out by Messrs. G. & F. Higham, builders, at a cost at about 1,500*l.*, from the designs and under the superintendence of Mr. T. H. Fleeming, architect, Wolverhampton.

*Maidford.*—The parish church of Maidford has been re-opened, after restoration. The church is in the Early English style, and consists of a nave, south aisle, porch, and chancel, with a tower containing two bells. The church, which had not been restored since the year 1818, had latterly fallen into a dilapidated condition, and a short time since the rector, the Rev. W. Egerton Tapp, with the assistance of his churchwardens and parishioners, determined to make an effort to renovate it. The principal feature in the work has been the re-flooring and re-seating of the church. The old red tiles have been replaced by Maw's tiles, while the old oaken pews have been done away with, and open sittings of pitch-pine, varnished, have been substituted. By the new sittings additional accommodation has been provided for about twenty worshippers, the church now seating about 120. The pulpit, reading-desk, and lectern are all new, the lectern being the gift of Mr. Leopold Staunton. The font, which is carved in Caen stone, is the work of Mr. Phillips, of Northampton, who also carved the reading-desk, pulpit, and lectern. The windows throughout the church are new, and in each window new mullions have been added. These were the work of Mr. J. Goldby, of Duston. The tower has been re-pointed, and new louvre windows added. Mr. Heath, of Eaton-square, London, was the contractor. The cost of the restoration will be about 400*l.*

## NEW CEMETERIES.

*Burslem.*—The new cemetery for the borough of Burslem has been consecrated by the Bishop of Lichfield. The Local Government Board constituted the late Local Board of Health a Burial Board for the parish of Burslem in 1873, Mr. F. Tennant being the prime mover in the effort to obtain a cemetery. They shortly afterwards began to look out for a suitable site, and ultimately fixed upon a piece of land about 28 acres in extent fronting Nettlebank, at the extreme boundary of the parish on the Smallthorne side. The land was purchased from the Rev. Walter Sneyd for 7,000*l.*, and about 10,000*l.* has been spent in erecting substantial boundary-walls, a registrar's office and lodge on the Smallthorne side, and a lodge at the North-road entrance, draining the ground, laying out walks, and planting shrubs. By the advice of Mr. Holland, of the Burials Acts Office, it was decided to lay out 5¼ acres for burial purposes, reserving the rest and laying it out ornamentally as a kind of recreation-ground. Much of the work was done by the late Local Board, and it has been continued by the Corporation.

*Knighton.*—The Church portion of the new cemetery at Knighton was consecrated by the Bishop of Hereford on the 16th of September. The cemetery is situated on the western side of the church, and has been laid out under the supervision of Mr. Thomas Gough, architect and surveyor for the Burial Board. The cemetery is equally divided between the Church and the Nonconformists,—the Church taking the eastern and the Nonconformists the western portion. The original cost of the land was 625*l.*; building boundary-walls, levelling ground, and making walks, 450*l.*; building lych-gates, with cost of iron gates, two entrances, 150*l.*; extra work and incidental expenses, 75*l.*; total cost, 1,300*l.* The contractors were Messrs. Williams & Jones.

## Books.

*The Higher Life in Art; with a Chapter on Hobgoblins by the Great Masters.* By Wyke Bayliss, F.S.A. London: David Bogue.

We have always had a kindly and sympathetic feeling for the writings of Mr. Wyke Bayliss about art, partly because he is an artist, and in his own walk a gifted one, and not a mere writer; partly because all he says obviously comes from heart-felt conviction, and is not mere superficial prating. At the same time we must confess that, from a literary point of view, his writings seem a little too odd and incoherent in style, and too vague in expression, to be of the value which their author's sincerity and good intent might have seemed to promise. We noticed a previous book, by the same author, not long ago, at some length ("The Witness of Art"), because of the fine feeling which was to be found in it, and in spite of much eccentricity both of thought and literary form. In taking up the present book we encounter the same literary drawbacks, and it does not appear to us that the author has really much more to say than he has already said in his previous work, but that he is repeating much the same reflections in different words and under different images and symbols. Of the latter, indeed, the book chiefly consists; and though symbol and metaphor afford often a very effective way of putting truths about art as well as about other things, a book which is all symbol and metaphor, and in which the writer seems to avoid saying anything in plain English, has an irritating effect on the mind, even when the meaning of the metaphors is obvious enough. Hardly any one who was exacting in regard to literary style, hardly any one who represented the highest class of literary culture, would look upon the reading through of such a book as in the main anything but a "bore," although he would be pleased and refreshed every now and then by a gush of genuine feeling, or a happy thought in criticism, which would compel him, in spite of himself, to think kindly of the author. There are other classes of readers, especially young students with strong aspirations about art and not very logically trained minds, to whom much of Mr. Bayliss's reflections will no doubt be delightful reading, and they will probably not read them without getting some good out of them.

The real point of the book, if we rightly read the author's meaning (and if we do not, we think he must take *some* of the blame), is to recommend to artists, professed or amateur, a higher and more serious aim than is generally implied in the expression "art for art's sake," in the feeling that art is really the means of drawing us closer to Nature and to a higher life and a higher holiness, and to the love and the comprehension of each other. "The higher life is also the love of art, but it is art for Nature's sake. It is the love of art because art brings us into the presence of something greater and better than ourselves. Leontes and Florizel are dear to us because of our manhood and our youth, Perdita and Hermione because there are still girls and women like them in the world. It is thus only that art touches our lives. Laying its hand upon us and upon Nature, it brings us a little closer together,—and so we are brought closer to God." This is very beautifully said, and is perfectly true, if we bear in mind that it is only so long as art is really striving after Nature, and not after mystic beauty and goodness, that it can lead us "up to Nature's God." This is, we believe, what Mr. Wyke Bayliss also means, but his practice and preaching are not always in keeping, for in his writing, at least, he is very mystical. Some of his remarks as to the way in which the poet helps the painter, and becomes his interpreter, are well put; and there is one passage in which this subject is brought in in connexion with

architecture, and with the author's own practice as an artist (which has lain chiefly in reproducing in colour the poetry of architecture), which we will quote, as interesting in itself and falling in specially with our own subject:—

"Perhaps the architect is the *lusus naturæ* of whom I spoke at first,—one, that is, who is both poet and artist. Of this I am quite sure, that every fine cathedral is the artistic embodiment of some poetic conception. And so I try to get at this conception,—to read back from the architect's work into the architect's mind, and learn something, if ever so little, of his spirit before venturing to become in my turn an interpreter to others. Thus, for every cathedral that I paint for other eyes to look upon, I write down some words for myself only,—words that shall be to me like one of our old examination papers, that must be mastered before another step is taken,—words that shall put to the test whether I am really going to paint, however imperfectly, the true thing, or a false conception of it. This is the true meaning of the verses you see everywhere in my sketch-books and on the margins of my drawings, and that, I confess, are no adornment. But they are very useful. I scarcely know which is of the greater value to me, my fourteen pentameters or my two-foot rule. I know only that I would not willingly paint a cathedral without both of them. The principle of it is very simple. Whatever is painted should be painted for the sake of the highest beauty it possesses. Man, for the mind that is in him; landscape, that we might therefore praise the Lord and declare his goodness to the children of men; flowers, for their delicacy and colour,—we cannot paint their perfume, or that too should be added; the cathedral, for its forest of tall pillars. Yes! if it is Chartres or Milan, but not if it is Treves. In Treves there are no pillars, but huge piers of stone; it is a quarry rather than a forest. *Strong with the savage splendour of rude walls*, don't you see? The march is already begun; five steps are taken almost before I can get the two-foot rule out of my pocket."

This certainly helps to explain to us why there is something more than the two-foot rule in Mr. Bayliss's paintings of the interior effects of cathedrals. He gets, however, into somewhat of a muddle sometimes with his poetic illustrations. In one place there is a contrast drawn between the spirit of Ben Jonson's lines, beginning, "I sent thee late a rosy wreath," and the melancholy turn of Byron's verse, from the stanzas introduced in "Childe Harold," "I send the lilies given to me"; and Mr. Bayliss's conclusion is that there are two Cupids, and that Byron had got hold of the wrong one, "the son of Nox and Erebus." Mr. Bayliss seems to have forgotten that these lines were addressed by Byron to his sister, and that Cupid had nothing to do in the matter.

Mr. Bayliss is very much to the point in some remarks upon the Royal Academy, the members of which, he says, have the same difficulty, year by year, of "being judges in a contest in which they are themselves competitors." It is a pity that all his remarks are not as simply worded and as straight to the point as these upon a practical question. Riddles and fairy-tales form possibly a good method of instructing children, but grown people are apt to become impatient of them.

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**Improvements in Singapore.**—The Singapore *Auction Gazette* says,—The Public Works Department is likely to be fully engaged for some time to come. The new jail is progressing rapidly, and the boundary wall being partly completed, an inspection of the site shows the extent of work in process. The grounds cover a space of about eleven acres, which should insure the health of those inclosed within the walls. Opposite the jail it is proposed to erect the much-needed new hospital, and probably next year will see that work begun. The Teluk Ayer Bay reclamations, and new road to Tanjong Pager will soon be commenced, and besides the convenience to commerce, the appearance of the town from the sea will be greatly improved, it being intended,—as in the case of Collyer Quay,—to insist on uniformity of architecture in the buildings fronting the sea. An excellent idea has also been suggested by the surveyor-general which should have the support of the land-owners, namely, to cut a road from opposite the works of Mr. J. M. Lyon to the Tajong Paggar road, between Mount Wallich and Mount Erskine.

## Miscellanea.

**New Temple at Palenque.**—M. F. Maler describes in *La Nature* some important results obtained by him in a recent visit to the famous Mexican ruins of Palenque. He found hundreds of houses, partly standing, partly demolished; small bridges; aqueducts. M. Maler describes one of his new discoveries,—a temple hitherto ignored, which contains in its sanctuary a mysterious sculpture with a figure of a cross, affording much food for thought to American archæologists. The new temple is close to the Temple of the Cross (known long ago), and the Temple of the Trophy. It is built entirely of calcareous ashlars, dressed along the edges. The façade, or external part of the vestibule, once formed, like the two neighbouring temples, by four pillars which support the stone roof, has, unfortunately, already yielded to the sad work of vegetation, which is to be regretted, as the pillars were generally ornamented with superb figures in stucco, richly painted. The bottom of the sanctuary, in the central chamber, is adorned with sculptures, the most curious at Palenque. They are executed on three slabs of calcareous stone, of 1 mètre 81 centimètres in height, by 2 mètres 89 centimètres in total breadth. The two pillars which support the vault of the sanctuary were formerly, as in the other temples, decorated with sculptured figures on large slabs of calcareous stone, which, unfortunately, have disappeared. On a species of pedestal rises a cross, of a design even more striking than that of the neighbouring temple, so well known. The cross is surmounted by a strange head, bearing on its neck a collar with a medallion. Above the cross is seated a bird with a hieroglyphical head; to the right, a man is placed on a graceful leaf ornament. There are four rows of *Katun* (or magic writing signs) on the right and left of the group.

**Cocoa Houses and Coffee Taverns** are being provided all over the country. We notice that at Bagillt a commodious building has been opened as a cocoa-house and working-men's club combined. The late Mr. Ellis Eyton, formerly M.P. for the Flint Boroughs, subscribed during his lifetime a sum of 210*l.* towards the formation of a working-men's club, but that subscription would have lain dormant had it not been for the action of Mr. A. O. Walker, of the firm of Messrs. Walkers, Parker, & Co., of Chester and Bagillt Lead Works, who, with other gentlemen, during last summer set themselves to work and brought forward a scheme for the incorporation of a cocoa-house company with the working-men's club. The capital is fixed at 2,000*l.*, but the whole of that amount has not so far been called up. The building has been erected on a piece of land of which Mr. Adam Eyton, of Llanerchymor, granted a lease for ninety-nine years at a nominal rent. The building is three stories high, and its architect is Mr. Bibby, of Flint, and the builder was Mr. L. Howell.——At Redruth, the chief promoters of the proposed temperance hall and coffee-tavern at Redruth have met at the office of Mr. Hicks, architect, and signed the contract for the new buildings, which are to be in the Gothic style. The cost will be about 700*l.* The builders are Messrs. Gray & Hodge.

**Asserted Cottage-building Mania, Liverpool.**—A correspondent of the Liverpool *Daily Post* writes in reference to the immense number of cottages, or workmen's houses, in the course of erection on the borders of the town, whilst there is a vast number of such dwellings finished but unlet. Speaking of one particular neighbourhood, the writer says:—"The fiat has gone forth, as I understand, and all the horrors of 'cabined, cribbed, confined' cottages, and rows on rows of narrow streets, may be expected, where still is to be seen one of the most select of the very few choice spots left open and suitable for country residences within walking distance of Liverpool. I think I hear the owners of these beautiful mansions and villas exclaim, 'Truly the Goths and Vandals are upon us.' Though I am personally unknown to these owners, and neither have property there nor live in the neighbourhood, my sympathies are largely interested on their behalf, and I should rejoice if this contemplated work of spoliation could be arrested. By what mysterious process these cottages are made to pay, in the face of the facts stated, in the face of these terrible times of empty houses and empty pockets, is almost beyond my wits to conjecture."

**Hospitals.**—The General Lying-in Hospital, in York-road, Lambeth, which has been closed this year, while extensive alterations and additions were being made, was opened again for the reception of in-patients on the 20th inst. The progress of medical and sanitary science having shown that much in the building was faulty, the committee invited Surgeon-major De Chaumont, Professor of Hygiene at Netley, to report upon the state of the building. The recommendations contained in his report, and other alterations, have now been carried out, under the direction of Mr. Eassie, C.E. In the wards, at the floor-level, on the inner surface of the walls, and opposite the outside air-bricks, coned air-bricks of wood have been inserted. Owing to the conical shape of the perforations, the diameter of each boring being greatest on the surface of the brick inside the room, the air enters freely without causing draught. In the winter this current of air, impinging upon the hot-water pipes, is warmed as it enters. Assisting air-inlets are placed at the ceiling level. The outlets for vitiated air are valves opening into the flues, and shafts direct from the ceilings to the outer air. In the lying-in wards the windows are made in horizontal sections, which can all be opened at the same moment by the turning of a rod, so that the ward can be flushed with air instantaneously. The warming of the building will be effected by low-pressure hot-water pipes, and there are besides open fireplaces. The floors of the wards have been planed down, and the surface of the wood has been dressed with a coating of parafin to fill the pores of the wood and prevent the absorption of anything deleterious, and as the walls and ceilings have been covered with a washable paint, it would be possible, without damage to the rest of the building, to wash any ward out thoroughly with a stream of water from a hose. The system of drainage has been reconstructed; the old drains under the house have all been removed, the waste-pipes of sinks and baths have been disconnected from the drain, soil-pipes taken outside the house, and ventilated to the roof, and other sanitary improvements effected. In order to keep the drains clean, a large volume of water is discharged into them periodically and automatically from the roof level, on Field's system. The works have been carried out by Mr. Jennings.

**The New Theatre at Geneva** has been opened. In beauty and extent it ranks next to the opera-houses of Paris and Vienna. In external appearance it greatly resembles that of Paris, being built in the same style of architecture. The upper part of the staircase walls and the ceiling are richly painted; one scene, by M. de Beaumont, depicts the Four Seasons; another, by M. Dufaux, the Four Elements; and M. Léon Gaud has contributed several allegorical figures of merit. The auditorium is in keeping with the rest of the house. The form of the galleries, the prevailing tint (light chamois on a red ground), and the style of ornamentation are in excellent taste. The three tiers of galleries have an outward inclination, the lowest tier being in advance of the highest. The auditorium is lighted by a splendid lustre, with 400 bronze burners. The seats are upholstered in red velvet, and the lower parts of the walls are papered or painted to match. While every precaution has been taken to prevent fires, the amplest facilities for exit are provided, and the theatre can be emptied of its occupants in a few minutes, so numerous are the doors, and so spacious are the staircases and corridors. The cost of this temple of Thespis has been defrayed from the proceeds of the Brunswick legacy, and, including the value of the land on which it is built, exceeds 5,000,000 f. It is, of course, the property of the city of Geneva, and for a year at least will be managed by the municipality, in order that they may ascertain by actual experience the extent to which it will be necessary thereafter to subsidise the lessee.

**"Talking to the Man at the Helm."**—Mr. H. A. Severn's mariner's compass causes an electric bell to be rung whenever the vessel is off her course. The captain of the ship sets the index hands to a certain angle, allowing the steersman a given latitude for deviation either to port or starboard. Should the ship be steered off her course beyond the limit allowed on either side an electric alarm-bell rings, and continues ringing until the right course is resumed.—*Electrician.*

**Roads in Paris.** — A lady [who visited Paris in 1835 prophesied that in process of time it would be possible to drive,—nay, even walk,—through its crowded streets without the aid either of aromatic vinegar or Eau de Cologne. The process of time to which that lady referred is now, perhaps, approaching its fulfilment. The Municipal Council of Paris is bent upon providing the city with every convenience, and the consequence is that you cannot walk ten minutes in hardly any direction without coming to a gaping trench or a barred street. Paris is now turned upside down even to a greater extent than it was at the time of the Exhibition last year. Even the Quai Voltaire, formerly one of the most peaceful and dignified spots in Paris, is a prey to plumbers and navvies. The unification of the sewers, the laying down of pipes for conveying the water of the Dhuys and the Vanne, and the laying of tubes for a pneumatic telegraph are all being carried on at the same time. Finally, the beneficent Municipal Council has decided that footpaths or side-walks shall be henceforward obligatory. The expense of the paving of new streets has to be borne by the landowners. Most of them finding that this expense was heavy enough, for landlords are, proverbially, a mean and cheeseparing gang, refused to incur the expense of paving or asphalting the side-walk. The consequence is that in Paris of 1879 there are scores of streets without any side-walk. Now the landowners are obliged to pay half the cost and the Ville de Paris will pay the other half, and soon there will not be a single street in Paris without a side-walk, and we shall all be happier and better men.—*Parisian.*

**The Employment of Girls in Brickyards.** At the weekly meeting of the West Bromwich Board of Guardians on the 6th inst., upon the question of the remission of school fees being brought forward, the relieving officer for Oldbury presented a case in which fees were applied for on behalf of a girl whose sisters were employed in a brickyard. In reply to the clerk, the relieving officer said there was reason to believe that the girl in respect to whom the fees were asked would eventually be sent to work in a brickyard. The clerk advised that the fees should not be allowed under such circumstances. The Rev. J. J. Daly objected to this, stating that the moral tone of girls working in brickyards was generally fair. Mr. Blades thought girls might do a very much worse thing. Brickyards were conducted in a different way to what they were years ago. The clerk said they should not encourage parents to send their children to brickyards, and he had simply suggested that the relieving officer should endeavour to get the parents of the child in question to send the girl out to service. Ultimately the fees were allowed.

**The Proposed National Museum, Dublin.** On the 15th inst. Mr. John M'Curdy, president of the Royal Institute of Architects of Ireland, accompanied by some other members of the Institute, waited upon the Chief Secretary at Dublin Castle in reference to the plans for the National Museum of Art and Science, which is to replace the Royal Dublin Society's Departments. The object of the deputation was to impress upon the Chief Secretary that neither the South Kensington officials nor the Board of Works should have the exclusive preparation of the plans for the new Museum in Dublin, but that there should be an open competition for the best plan, with liberty to the Irish architects to take part in it. The Chief Secretary stated that he was induced to believe that the decision on the matter rested with the English Department; but he would represent the opinion of the deputation, which he certainly did not think unreasonable, to the proper quarter.

**Very Civil.**—It would be difficult to imagine a more humorous precaution against robbery than that recently adopted by a practical New Yorker, who, on leaving town, placed conspicuously in his "hall-way" a large placard thus conceived:—"To robbers and thieves. All my plate and other valuables have been sent to the National Deposit Company. The trunks contain only some worn-out clothing, which will be but of little use to you. The keys you will find to the left on the table in the parlour, in case you should doubt my statement. You will also find there a cheque, payable to bearer, for fifty dollars, to indemnify you for your disappointment and loss of time. Please wipe your feet on the mat, and do not drop any candle-grease on the carpet!"

**State of Labour in Europe.**—The American Consuls in many of the principal towns of England, France, Germany, Belgium, Denmark, Italy, Holland, and other countries, were instructed to make careful inquiries into the state of labour, rates of wages, habits of the working-classes, &c., and have embodied the results in reports to Secretary Evarts. Much valuable information has thus been collected, an analysis of which, with criticism, appears in this week's *Capital and Labour*, an advance copy of the volume of reports having been sent to that journal from the Treasury Department at Washington.

**School Playgrounds.**—We are glad to find that the School Board has passed the following resolutions:—That a special committee be appointed to consider to what extent, and under what regulations, the Board may, either with or without the co-operation of voluntary societies, open the playgrounds of the Board schools on Saturdays and out of ordinary school-hours." The Board some time ago affirmed the principle that the playgrounds of the schools should be utilised as far as possible for the benefit of children residing in the neighbourhoods out of school-hours. It is to be hoped it will now be carried out.

**St. Leonards-on-Sea.**—On Tuesday, the 14th inst., Mr. Thomas Brassey, M.P., and Mrs. Brassey, opened the new buildings which have been erected for the Warrior-square Concert-room Company, Limited. The buildings consist of a large hall, 96 ft. by 57 ft., and several smaller rooms available for club purposes, dressing-rooms, &c., and for small meetings, for which the large hall would not be required. There is also a considerable extent of cellarage accommodation. The works have been carried out by Mr. F. Cruttenden, of St. Leonards, under the superintendence of the architects of the company, Messrs. Richard A. Hill and W. L. Vernon, at a cost exceeding 10,000*l.*

**Pharaoh's Army in the Red Sea.**—Abbé Meigne has traced the course of the Children of Israel day by day, in accordance with new *data*, and he asks the Christian world, since the spot is now known where the Egyptians were swallowed up, with "the horse and his rider," chariot, and everything, to subscribe the requisite funds to enable excavations to be made and "the relics of the army overcome by the Almighty himself to be brought to light." The Abbé will undertake the work if he succeeds in getting together 300,000f., "because the finding of the remains of Pharaoh's army would be a powerful reason in favour of the truth of the Holy Scriptures."

**Size of the Oak in England.**—Mr. C. A. Ward says,—"The Rev. Basil Edwards is anxious to know if he is correct in supposing the Newland oak, of 47 ft. 6 in. in girth, to be the largest in England. Certainly it is not. The Cowthorp oak, in Yorkshire, more than 100 years in decay, has a girth of 60 ft., almost as much as the base of the late Eddystone Lighthouse. In 1718 it covered half an acre; a branch at that date torn off yielded five tons of timber." The inquiry of a recent correspondent as to the greatest height attained by the oak in England still remains unanswered. One specimen, 100 ft. in height, was named.

**Rapid Artesian Boring.**—At Johnson's cement works, Cliff, near Gravesend, Messrs. Le Grand & Sutcliff have driven a patent Abyssinian tube well by their new process. It was commenced at twelve o'clock on Monday, and by Wednesday afternoon 100 ft. was reached, through clay, gravel, and chalk. The time occupied in reaching this depth included three stoppages to pump samples of water, viz., at 64 ft., 77 ft., and 100 ft. respectively.

**New Hospital for Newark.**—A determination having been arrived at to erect a new hospital for Newark and the district, plans were solicited by the committee and referred to the surgeons of the establishment and Mr. Mawson. They selected three sets of plans,—those of Mr. Goddard, of Lincoln; Messrs. Freeman & Naylor, of Derby; and Mr. Bliss Sanders, of Nottingham; and eventually the plans of Mr. Sanders have been selected for execution.

**The Bronze Metal Sashes** referred to in our notice last week of the new building of the Society for Promoting Christian Knowledge were, we are informed, the work of Messrs. Bunnett & Co., 90, Queen-street. In the list of tenders this week we see this company's tender, 7,500*l.*, has been accepted for hydraulic lifts and other engineering work for the Asylum for Imbeciles at Darenth.

## TENDERS

For engineering work at the Asylum for Imbeciles, Darenth, Kent, including tanks, water mains, and hydrants, hot-water circulations, main, steam, and gas pipes, lifts, sanitary and other fittings, for the Managers of the Metropolitan Asylum District. Messrs. A. C. Harston, architects:—

| | |
|---|---|
| Stidder | £10,710 0 0 |
| Bacon | 10,100 0 0 |
| Benham | 9,995 0 0 |
| Wontner Smith | 8,970 0 0 |
| Bower | 8,964 0 0 |
| Vigor | 8,573 0 0 |
| Siebe & Gorman | 8,500 0 0 |
| May | 7,990 0 0 |
| Clements | 7,890 0 0 |
| Lowcock | 7,800 0 0 |
| Dennis | 7,789 0 0 |
| Bunnett (accepted) | 7,500 10 0 |

For joinery and fittings at the Asylum:—

| | |
|---|---|
| Niblett | £1,941 0 0 |
| Gloucester Wagon Co. | 1,284 5 3 |
| Lascelles | 1,253 0 0 |
| Aviss | 1,198 0 0 |
| Mackey | 1,120 0 0 |
| Gumbrell | 1,115 0 0 |
| Emery | 1,112 0 0 |
| Braid | 1,050 0 0 |
| Avard | 990 0 0 |
| Adcock | 889 0 0 |
| Quinn (accepted) | 700 0 0 |

For pulling down and rebuilding warehouse, No. 23, Newgate-street, for Messrs. Drury, Jones, & Timberlake. Mr. G. Brinsley, architect. Quantities by Messrs. Strudwick & Mennier:—

| | |
|---|---|
| Lingell, jun. | £3,890 0 0 |
| Aitchison & Walker | 3,610 0 0 |
| Batley | 3,545 0 0 |
| Macey | 3,515 0 0 |
| Patman & Fotheringham | 3,450 0 0 |
| Howard & Newell | 3,293 0 0 |
| Parker & Ewins | 3,270 0 0 |
| Castle | 3,249 0 0 |
| Wilson & Exton | 3,239 0 0 |
| Green & King | 3,230 0 0 |
| Braid & Co. | 3,200 0 0 |
| Martin, Wells, & Co. | 3,200 0 0 |
| Priddle | 3,200 0 0 |
| Waynut | 3,120 0 0 |
| Beale | 2,956 0 0 |
| Nightingale | 2,921 0 0 |

For restoring and enlarging Horne Church, Surrey. Mr. Gordon M. Hills, architect. Quantities by Mr. W. Smith:—

| | |
|---|---|
| Cox | £2,428 0 0 |
| Longley | 2,290 0 0 |
| Carrathers | 2,233 0 0 |
| Woods | 2,100 0 0 |
| Beale | 1,910 0 0 |
| Dives | 1,819 0 0 |
| Wallace | 1,557 10 0 |

For shop-fronts and fittings in Finsbury Park-road, for Mr. R. D. Sadley. Mr. J. Groome, architect:—

| | |
|---|---|
| Smith, Bros. | £559 0 0 |
| Nicholls & Co. | 496 0 0 |
| Shurmur | 495 0 0 |

For rebuilding house and new bakehouse for Mr. Hands, at Roade, near Northampton. Exclusive of old materials to be converted, and building stone to be excavated for on the site. Mr. John Ingman, architect:—

| | |
|---|---|
| Ireson | £400 0 0 |
| Mardi | 315 0 0 |
| Goodridge | 297 0 0 |

For erecting residence at Bexhill, for Mr. Henry Rose Sweer. Messrs. F. & J. Plowman, architects:—

| | |
|---|---|
| Reeve | £660 0 0 |
| Phillips & Co. | 611 0 0 |
| Ockenden | 579 6 0 |
| Parker | 569 8 0 |
| Vidler | 524 0 0 |
| Lambert | 513 14 1 |

For alterations and repairs at Church-row Schools, Bethnal-green. Messrs. T. & W. Stone, architects:—

| | |
|---|---|
| Beal | £570 0 0 |
| Wire | 540 16 9 |
| Thomerson & Son | 495 10 0 |
| Howard | 493 0 0 |
| Higgs (accepted) | 421 17 8 |

For alterations to No. 4, Slater-street, Commercial-road:—

Higgs (accepted).

For erecting new church of St. Andrew, Rowbarton, Taunton. Mr. J. Houghton Spencer, architect:—

| | |
|---|---|
| Stephens & Bastow | £2,938 0 0 |
| Escott | 2,692 0 0 |
| Wiscombe | 2,648 0 0 |
| Dinham & Verrier | 2,254 0 0 |
| Spiller (accepted) | 2,190 0 0 |
| Trevenna | 2,024 0 0 |

For the erection of bullock-store, Southampton. Mr. Arthur Martin, architect:—

| | |
|---|---|
| Dowdall | £375 0 0 |
| Young | 260 0 0 |
| Sanders | 247 10 0 |
| Cole (accepted) | 229 14 0 |

For the erection of new circus, Southampton, for Messrs. Batty. Mr. Arthur Martin, architect. Quantities by the architect:—

| | |
|---|---|
| Watts (accepted) | £1,079 0 0 |

For shops and offices, Nos. 27 and 28, Jewin-street. Messrs. Ford & Hesketh, architects:—

| | |
|---|---|
| Browne & Robinson | £3,360 0 0 |
| Ashby & Horner | 3,346 0 0 |
| Ashby Bros. | 3,276 0 0 |
| Mark | 3,150 0 0 |
| Brass | 3,135 0 0 |
| Conder | 2,999 0 0 |
| Nightingale | 2,981 0 0 |
| Crabb (accepted) | 2,919 0 0 |

For new schools, at Waterloo-road, Lambeth, for the School Board for London. Mr. E. R. Robson, architect. Quantities by Mr. W. H. Barber:—

| | | | |
|---|---|---|---|
| Williams & Son | £5,980 | 0 | 0 |
| Shepherd | 5,883 | 0 | 0 |
| Downs | 5,721 | 0 | 0 |
| Brass | 5,658 | 0 | 0 |
| Thompson | 5,535 | 0 | 0 |
| Higgs & Hill | 5,497 | 0 | 0 |
| Tyerman | 5,461 | 0 | 0 |
| Grover | 5,443 | 0 | 0 |
| Hook & Oldrey | 5,435 | 0 | 0 |
| Marsland | 5,345 | 0 | 0 |

For the construction of about six miles and a half of sewers, with the manholes, tanks, &c., for the Local Board for the District of Belgrave, near Leicester. Contract No. 1. Mr. Edward F. Stephens, engineer:—

| | | | |
|---|---|---|---|
| Mackenzie & Co. | £11,200 | 0 | 0 ! |
| Benton & Woodiwiss | 10,233 | 8 | 3 |
| Fotherby & Son | 9,838 | 13 | 0 |
| Bell | 9,297 | 12 | 11 |
| Botterill | 9,255 | 0 | 0 |
| Taylor | 9,186 | 4 | 8 |
| May & Facey | 9,073 | 13 | 0 |
| Wade | 8,750 | 0 | 0 |
| Small & Sons | 8,547 | 13 | 0 |
| Dodds & Co. | 8,426 | 2 | 11 |
| Nelson & Co. | 8,295 | 0 | 0 |
| Brannan, Kelly, & Co. | 8,022 | 0 | 0 |
| Coker & Sons | 7,817 | 1 | 0 |
| Young & Williams | 7,700 | 0 | 0 |
| Ethidge | 7,654 | 12 | 0 |
| Stevenson | 7,680 | 0 | 0 |
| J. & G. Tomlinson | 7,680 | 0 | 0 |
| Moss | 7,519 | 3 | 0 |
| Dowell & Co. | 7,500 | 0 | 0 |
| Cox | 7,406 | 0 | 0 |
| Greenwood | 7,325 | 0 | 0 |
| Rayner | 7,310 | 0 | 0 |
| Cowdery & Sons | 7,283 | 9 | 0 |
| Wood & Son | 6,978 | 0 | 0 |
| Smart & Son | 6,950 | 0 | 0 |
| Dovener & Quesnel | 6,600 | 0 | 0 |
| Godfrey | 6,545 | 8 | 9 |
| Hickman & Son | 6,496 | 0 | 0 |
| W. & A. Rudkin | 6,439 | 0 | 0 |
| Dewitt | 6,428 | 0 | 0 |
| Holland | 6,000 | 0 | 0 |
| Atkinson | 5,686 | 0 | 0 |
| Lea (accepted) | 5,530 | 0 | 0 |
| Gowens | 5,488 | 17 | 6 ! |

For the erection of an engine-house and boiler-house on the Irrigation Ground, Melton-road, Belgrave. Contract No. 2:—

| | | | |
|---|---|---|---|
| Greenwood | £614 | 0 | 0 |
| Moss | 586 | 7 | 0 |
| Lineham | 566 | 10 | 0 |
| Minchin & Law | 562 | 0 | 0 |
| Butteriss | 510 | 0 | 0 |
| Smith | 505 | 10 | 0 |
| Major | 463 | 0 | 0 |
| Cooper | 450 | 13 | 0 |
| Flude | 428 | 0 | 0 |
| W. & A. Rudkin | 421 | 0 | 0 |
| Cox | 395 | 10 | 0 |
| Duxbury & Son (accepted) | 390 | 0 | 0 |

For works at the Murray Arms, St. Paul's-road, Camden-square. Mr. J. R. Furniss, architect:—

| | | | |
|---|---|---|---|
| Rowell | £1,400 | 0 | 0 |
| White | 1,290 | 0 | 0 |
| Marks | 1,230 | 0 | 0 |
| Edgely | 1,220 | 0 | 0 |
| Grimwood & Sons | 1,197 | 0 | 0 |
| Temple & Foster | 1,123 | 0 | 0 |
| Anley | 1,070 | 0 | 0 |

For shop-front and fittings at No. 3, King-street, Hammersmith. Mr. E. Clarke, architect:—

| | | | |
|---|---|---|---|
| Sage | £795 | 0 | 0 |
| Trent Bros. | 750 | 0 | 0 |
| Colls | 718 | 0 | 0 |
| Mark | 718 | 0 | 0 |
| Priestley | 650 | 0 | 0 |
| Howard | 563 | 0 | 0 |

For the erection of a curate's residence at Ladock, Cornwall, for the Rev. Canon Wise:—

| | | | |
|---|---|---|---|
| Julian & Sons (accepted) | £1,400 | 0 | 0 |

For new lavatories, retiring-rooms, &c., at the Vestry hall, Turnham-green, for the Chiswick Commissioners:—

| | | | |
|---|---|---|---|
| Sim | £499 | 0 | 0 |
| Whitman | 495 | 0 | 0 |
| Nye | 494 | 0 | 0 |
| Baynes | 480 | 0 | 0 |
| Brumsden (accepted) | 467 | 0 | 0 |
| Haynes | 450 | 0 | 0 |
| Hatton & Co. | 425 | 0 | 0 |

For factories for Chiswick Wall-Paper Works, Turnham-green, for Mr. Arthur Sanderson. Quantities by Mr. W. B. Catherwood & Mr. Bagg:—

| | | | |
|---|---|---|---|
| Smith & Co. | £11,699 | 0 | 0 |
| Trollope & Sons | 10,572 | 0 | 0 |
| Bywaters | 10,404 | 0 | 0 |
| Holland & Hannen | 10,383 | 0 | 0 |
| Nightingale | 9,981 | 0 | 0 |
| Lawrence | 9,847 | 0 | 0 |
| Colls & Sons | 9,618 | 0 | 0 |

For shops, Charing-cross, for Mr. Davis. Mr. Willis, architect:—

| | | | |
|---|---|---|---|
| Clemence | £537 | 0 | 0 |
| King & Son | 535 | 0 | 0 |
| Aitchison & Walker | 475 | 0 | 0 |

For the erection of a pair of houses in the Carlisle-road, Romford, Essex, for Mr. Joseph Taylor. M. G. Sparrow Harrison, architect:—

| | | | |
|---|---|---|---|
| Bennett (accepted) | £415 | 0 | 0 |

For the erection of two villa residences and out-buildings complete, in the Alexandra-road, Penzance, Cornwall, for Mr. Samuel Elliott. Mr. J. W. Trounson, architect:—

| | | | |
|---|---|---|---|
| Julian & Sons (accepted) | £2,350 | 0 | 0 |

*"Admiral Keppel," Hoxton.*—J. & H. Cocks (not "Cox"), accepted, 2,248*l.*

Sir,—With reference to your remarks upon the disparity in the tenders sent in for the work to be done at the New Vegetable Market, permit us to inform you that the "Martin & Wells" mentioned in your list are in no way connected with us. Martin, Wells, & Co.
*Buckingham Palace-road.*

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All statements of facts, lists of tenders, &c, must be accompanied by the name and address of the sender, not necessarily for publication.

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